APPENDIX

CITED SECONDARY SOURCES

INDEX[1]

Exhibit

1. Acevedo, Nicolas, Kathryn J. Blanchard, & Stephanie Riegg Cellini, *Occupational Licensing and Student Outcomes*, PEER (2022)

2. Simpson, Kaila M. *et al*., *Examination of Cosmetology Licensing Issues: Abridged Report: Data Tables for Outcomes of Interest*, American Institutes for Research (AIR) (2016)

3. Cellini, Stephanie Riegg & Kathryn J Blanchard, *Quick college credentials: Student outcomes and accountability policy for short-term programs*, Brookings Institution (2021)

[1] The sources identified below are cited in the Notice of Proposed Rulemaking and/or the Final Regulations through which the Revised Provision was promulgated and would therefore be included in a certified administrative record for the Revised Provision. A full administrative record has not yet been compiled and certified.

EXHIBIT 1

Postsecondary Equity & Economics Research Project

A joint initiative of
George Washington University,
Columbia University and Student Defense

Occupational Licensing and Student Outcomes

Nicolas Acevedo
Columbia University

Kathryn J. Blanchard
George Washington University

Stephanie Riegg Cellini
George Washington University
And NBER

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INTRODUCTION

In the United States, licenses are required for entry into many different occupations, such as cosmetology, massage therapy, nursing, teaching, construction contracting, medicine, and law. Requirements vary by state and by occupation: common elements include a particular level of schooling, passing an examination, a minimum number of hours of training, on-the-job experience, and/or continuing education. In this report, we consider licensing in sub-baccalaureate fields, with a particular focus on cosmetology and massage therapy programs, which require a minimum number of training hours in the largest number of states. We ask whether these requirements to become licensed pay off for students. The answer, in short, is no. We find that licensing hours in these occupations are correlated with higher levels of student debt, as students must attend more postsecondary education and pay more tuition. The increased debt and additional training that students obtain in states and programs with higher hours does not appear to be rewarded in the labor market: licensing hours requirements show no correlation with wages.

Training or instructional hours requirements are the among the most salient for higher education policy and practice. Institutions offering programs in licensed fields must ensure that they provide sufficient hours to meet state-mandated minimums to allow students to practice in that field upon graduation. These types of requirements have important implications for students. All else equal, students in states with higher training hour requirements will need to stay in school longer than their counterparts. They will not only incur more direct costs in terms of tuition and fees, but they will also incur larger indirect costs: they need more time to complete their credential and must delay the start of their career. These additional costs may be reasonable if higher required training hours translate to higher earnings post-graduation, but it is not at all clear that this is the case.

In this report, we examine the correlation between required licensing hours and student outcomes. We review the theory and literature on occupational licensure, then document training hours requirements for about 30 popular sub-baccalaureate fields across 50 states and the District of Columbia collected by the National Conference of State Legislatures. We then investigate whether required training hours are correlated with student debt and post-college earnings drawing on the two fields that have sufficient data and variation to identify correlations—cosmetology and massage therapy.

Cosmetology and massage therapy have also been the source of recent debates. News reports suggest that state cosmetology boards may be requiring an excessive number of training hours in some states[1] and data on the debt and earnings of cosmetology graduates suggest disappointing outcomes for students in this field.[2] There is less research on massage therapy programs and licensing, but reports of impropriety and criminal behavior in the field are not uncommon.[3]

We find that for both cosmetology and massage therapy, higher licensing hours requirements are associated with higher levels of student debt. The additional debt that students incur does not appear to translate to higher earnings. Rather than raise wages, as economic theory predicts, we find no correlation between licensing hours and wages in these fields. Our results suggest that the elevated hours of training required for cosmetology and massage licensure in some states may not pay off for students.

BACKGROUND

Occupational licensing requires individuals to receive government-approved licensing or certification in order to practice a profession. Economic theory on licensing dates back to Adam Smith,[4] but the topic entered policy debates around 1962 with Milton Friedman's seminal work, *Capitalism and Freedom.* Friedman argues that occupational licensing creates barriers to entry for non-licensed individuals and increases producer protections against competition. By restricting labor supply through increased requirements, licensing places upward pressure on wages. As a result, Friedman claims that licensure increases monopoly power and sacrifices market efficiency, generating welfare losses. Further, since the benefits of licensing are concentrated for producers and the welfare losses are diffused among consumers, pushback against licensure is unlikely, allowing small well-organized trade or interest groups to institute licensing requirements for their own benefit.

Friedman's argument against licensing is predicated on the assumption that licensing requirements are imposed on perfectly competitive markets. However, licensing may be theoretically justified and reduce inefficiency in cases of market failure in the presence of asymmetric information or negative externalities. In the former case, if it is difficult for consumers to assess quality, licensing can prevent low-quality practitioners from potentially inflicting harm on consumers. This might be the case for complex tasks and those that pose great risks to health or safety, such as surgery. In the case of negative externalities, licensing may prevent harm to the public. For example, a poor electrical wiring job could burn down a neighborhood.[5] A key question then, is for which occupations is licensing justified and which are more likely driven by political organization.

Empirical work in economics has generated evidence on many of the theoretical arguments for and against occupational licensing. Overall, the research demonstrates that licensing has had little effect on health and safety, but does increase wages for licensed practitioners. At the same time, it reduces employment, inhibits geographic mobility, lowers the wages of excluded workers, and increases prices for consumers.[6]

Kleiner and Krueger (2013) show that the wage premium (i.e., additional wages) for licensed occupations is around 18%.[7] Nunn (2018) further finds evidence that the license wage premium increases with age, that licensed workers have longer job tenure and lower rates of part-time work, but that they face higher wage inequality than in the unlicensed sector. The costs of licensing, all of which restrict the supply of workers, lead to wage premiums that are larger for low-income workers.[8] Blair and Chung (2018) quantify the barrier to entry created by licensing. They find evidence that licensing reduces equilibrium labor supply by 17-27%.[9] In their more recent paper, Blair and Chung (2020) find some promising evidence that licensing causes firms to rely less on observable characteristics in determining wages, leading to smaller wage gaps.[10] Finally, Johnson and Kleiner (2020) explores another margin of restriction licensing requirements can cause. They find that licensing reduces interstate migration by 7%.[11]

A few studies have focused on specific fields that require licensing. Kleiner and Park (2010)[12] and Dillender et al. (2022)[13] study the easing of licensing requirements for health care assistants[14] ability to perform certain tasks, and they find that the assistants' earnings increase. More relevant for this report, Timmons and Thornton (2019) study the changing licensing laws for barbers in Alabama and find that—consistent with economic theory—de-licensing decreased barbers' average annual

earnings and increased the number of cosmetologists in the state.[15] Wheelan (2010) seeks to explain why cosmetology requires licensing but electrical work does not.[16] He finds that the size and budget of professional associations is a better predictor of whether an occupation requires licensing than the level of public risk that it poses.

Public debate over cosmetology licensing has been ongoing since roughly 2012. A high-profile court case questioned whether Jestina Clayton, a Utah resident from Sierra Leone who started an African-style hair braiding business, needed a cosmetology license that would require 2,000 hours of schooling (which was unlikely to cover hair braiding) and cost roughly $16,000 in tuition.[17] The federal judge sided with Ms. Clayton, writing:

> "Utah's cosmetology/barbering licensing scheme is so disconnected from the practice of African hairbraiding, much less from whatever minimal threats to public health and safety are connected to braiding, that to premise Jestina's right to earn a living by braiding hair on that scheme is wholly irrational and a violation of her constitutionally protected rights." *Clayton*, 855 F. Supp. 2d at 1215-1216.

In 2018, the *New York Times* reported on the high debt incurred by cosmetology students due to high licensing hours requirements in some states. It further noted that these programs require students to pay tuition for their hours working in salons—often in excess of 2,000 hours—while at the same time generating revenue from paying customers.[18] For example, at the time, Iowa required 2,100 hours to become a cosmetologist—more than a full year of 40-hour workweeks. In contrast, emergency medical technicians in Iowa require just 132 hours.[19] Below, we seek to address some of the questions raised by the research and anecdotal evidence. We investigate the extent to which higher hours requirements for cosmetologists and massage therapists are correlated with debt and earnings.

DATA

Data on state licensing requirements come from the National Conference of State Legislatures (NCSL). NCSL collects data on about 30 occupations that are commonly licensed in the United States and require less than a bachelor's degree.[20] The data include whether or not each state (and the District of Columbia) requires a license, an exam, and minimum training hours, among other items.

We combine the state-level licensing data with data on federal student loan debt at both the state and program level from the Integrated Postsecondary Education Data System (IPEDS). Debt is measured as mean and/or median cumulative federal student loan debt at the time of exit at the program-level based on the most closely-related 4-digit Classification of Instructional Program (CIP) code (e.g., cosmetology is code #1204). We note that only programs participating in federal student aid programs are counted in the IPEDS[21] and only federal student debt is included in our debt measures, so our analysis represents a lower bound if students take on private debt to cover college expenses.

Earnings data comes from the 2016 American Community Survey (ACS) by occupation and state. We consider hourly wages, approximated by average annual earnings divided by number of weeks worked and average hours of work per week. We identify occupations using NAICS codes that most closely match the names of the 4-digit CIP codes for cosmetology and massage therapy (e.g., cosmetologists have an NAICS code of #81211 which we match to CIP code #1204). We note that average wages are calculated for all individuals in the given occupation and we cannot distinguish between different ages and experience levels, so our earnings measures represent an upper bound on the earnings of early career cosmetologists.

DESCRIPTIVE STATISTICS

Table 1 describes the NCSL state-level data on licensing and training hours required, sorted alphabetically, by occupation. There are 9 occupations for which all 50 states and the District of Columbia require licenses (see column 6)—but not all of these require a minimum number of training hours (see column 5). The nine most commonly licensed fields are barbers, cosmetologists, dental hygienists, insurance agents, licensed practical nursing, physical therapy assistant, pre-school teachers, real estate appraisers, and bus drivers. However, in many states these fields do not require a minimum number of training

hours, but rely on other requirements for licensure, such as examinations. For example, dental hygienists have minimum training hours in just one state and real estate appraisers have them in 28. Cosmetology, barbering, manicurist, and skin care specialists (all offered by cosmetology schools and broadly in the same field) each have required training hours in 50 or 51 states and massage therapy has required hours in 46 states.

Of course, as noted above, cosmetology has been the center of ongoing public debate around the value of licensure and is among the fields with the highest mean and median hours at 1550 and 1500, respectively. The minimum hours are 500 and maximum at 2,100, among the highest in our data. Massage therapy requires roughly a third of those hours, with a mean and median of 500 hours, but may have a stronger case for licensing on public safety grounds, relative to cosmetology, given allegations of human-trafficking, prostitution, and sexual abuse in the industry.[22]

Outside of cosmetology and massage therapy, other occupations show variation in the number of states that require licensing and in training hours. For example, 32 states require licenses for electricians with just 7 of them requiring minimum training hours. Plumbers have high mean hours at 1,541 and a maximum of 8,048, but median hours are zero, since more than half of the states that require licensing for these occupations require no training hours.

In the analysis that follows, we examine the relationship between required training hours and student outcomes—notably, debt and earnings. We draw on variation in required training hours across states to assess correlations. Since our data on debt is aggregated at the 4-digit CIP code level we must combine some similar programs from Table 1. We focus on the two occupations that require licensing and have non-zero training hours in the highest number of states when we aggregate: cosmetology and massage therapy. These two occupations also have the benefit of having clear links to a particular CIP code in our education data for accurate debt measurement.[23]

COSMETOLOGY LICENSING HOURS AND STUDENT OUTCOMES

We consider the relationship between required training hours and student outcomes for the particular case of cosmetology programs in Figures 1 through 3. Figure 1 shows the correlation between mean licensing hours for cosmetology and median debt at the state level. The figure shows a strong upward sloping relationship. Higher licensing hours in a state are associated with higher median debt, with a correlation coefficient of 0.5118.[24] On the low end of licensing hours and debt are Massachusetts and New York, while Oregon, Nebraska, and Iowa are among the states with the highest hours and debt.

Rather than aggregating by state, Figure 2 shows the correlation between hours requirements and debt at the program level. By construction, programs are bunched at particular licensing hours values that correspond to the hours required in their state, but the program-level data are more dispersed across debt levels (note that the y-axis also shows a larger range of debt values), but we see the same general pattern of a positive correlation between debt and licensing hours, with a coefficient of 0.286.

In Figure 3, we examine whether the higher debt associated with cosmetology licensing hours might pay off in the form of higher wages, using the ACS data by state. Licensing hours do not appear to be correlated with wages. The line of best fit between hours and wages is flat—around just $20 per hour—with a correlation coefficient close to zero, just -0.0047. While we caution that these estimates are not causal, the pattern suggests that licensing hours requirements in this field raise debt without generating additional productivity gains.

MASSAGE THERAPY LICENSING HOURS AND STUDENT OUTCOMES

We examine the extent to which the patterns for cosmetology hold for massage therapy in Figures 4-6. Figure 4 reveals some similarities and some differences when considering the correlation between licensing hours and debt for massage. First, there is much less variation in hours across states in massage therapy than for cosmetology. Most states require 500 hours and all but two require 750 hours or less. The outliers are Utah and Nebraska, which require 1,000 hours each. Nonetheless, we still see a slight upward trend in debt with a correlation coefficient of 0.168.

Figure 5 shows the program-level correlation between licensing hours and debt. Again, the pattern is upward sloping with a weak positive relationship of 0.078 with high variance in debt for the large number of programs with requirements of 500 hours.

The correlation between hours and massage therapist wages is presented in Figure 6. Here, as for cosmetology, we see a virtually flat line with a slight negative slope, indicating almost no correlation between hours and earnings: the coefficient is about -0.0655. Average wages are notably low in this field, around $15 per hour regardless of the training hours that students obtain.

CONCLUSION

This study examines occupational licensure in the context of higher education, assessing the correlation between the number of training hours required for licensing and student outcomes. We document the mean and median required training hours by occupation and state and consider in detail the two occupations that have non-zero minimum required licensing hours in the largest number of states—cosmetology and massage therapy. We show that higher licensing hours in these fields are correlated with higher levels of student debt, as students must attend more postsecondary education—and pay more tuition—to complete licensing requirements. The increased debt and additional training that students obtain does not appear to be rewarded in the labor market: licensing hours requirements show no correlation with wages.

The associations we document are only suggestive and more research is needed to explore the causal relationship between licensing hours and student outcomes. Nonetheless, the correlations we observe generate striking patterns and suggests that training hours requirements can have significant consequences for students. We recommend that policymakers concerned about student outcomes in higher education carefully consider the role of state-mandated training hour requirements as they formulate regulations to protect students and taxpayers.

Table 1. Licensing and Training Hours, by Occupation

	Mean	Median	Minimum	Maximum	Number of states requiring training hours	Number of states requiring licensing
Barber	1417	1500	1000	2100	50	51
Certified Nursing Assistant	98	90	75	180	51	51
Cosmetologist	1550	1500	500	2100	51	51
Dental Hygienist	1600	1600	1600	1600	1	51
EMT	154	160	0	315	25	24
Electrician	98	0	0	1000	7	32
General Contractor	2	0	0	60	4	22
HVAC Contractor	28	0	0	1000	3	32
Home Inspector	43	0	0	180	24	30
Licensed Practical Nurse	0	0	0	0	0	51
Manicurist	377	350	0	750	50	50
Massage Therapist	500	500	0	1000	46	46
Occupational Therapist Assistant	0	0	0	0	0	46
Pharmacy Technician	22	0	0	480	4	36
Physical Therapy Assistant	0	0	0	0	0	51
Pipe-Fitter	1471	0	0	8048	14	35
Plumber	1541	0	0	8048	13	34
Pre-School Teacher	0	0	0	0	0	51
Radiologic Technologist	185	0	0	1850	1	42
Real Estate Agent	73	60	0	180	44	46
Real Estate Appraiser	19	20	0	60	28	51
Respiratory Therapist	0	0	0	0	0	50
Security-Fire Alarm Installer	26	0	0	576	13	16
Skin Care Specialist	621	600	260	1000	50	50
Transit City or School Bus Driver	1	0	0	26	2	51
Veterinary Technician	0	0	0	0	0	37

NOTES: Mean, median, minimum, and maximum required training hours are calculated for all states that have licensing requirements for the occupation, including those that have no training hours requirement (coded as 0 hours), but have other requirements, such as an examination. The number of states requiring non-zero training hours are listed in column (5) and the number of states requiring any license are in column (6). Licenses are coded in the NCSL data and include variations in definitions across occupations and states. Values not coded in hours were coded as missing.

Figure 1. State-Level Correlation Between Licensing Hours and Mean Debt, Cosmetology Certificate Programs

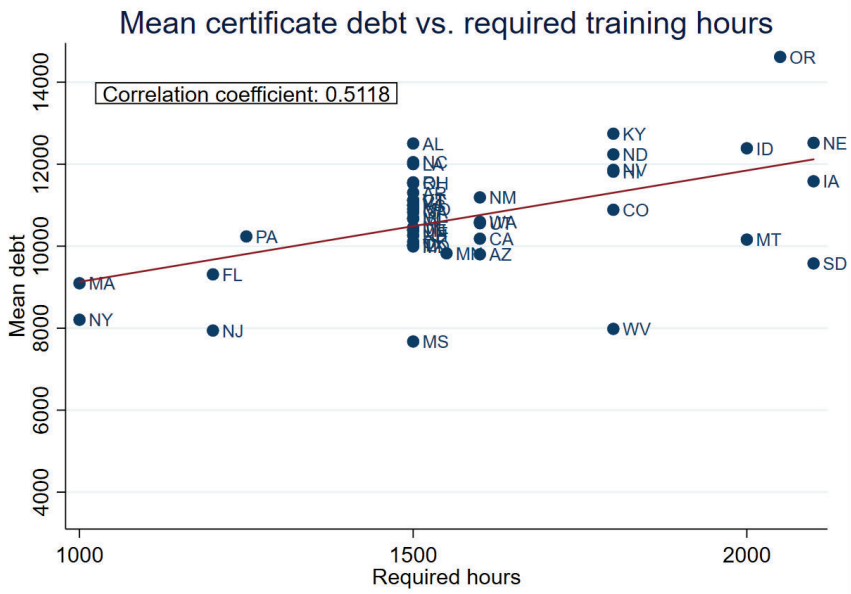


Figure 2. Program-Level Correlation Between Licensing Hours and Mean Debt, Cosmetology Certificate Programs

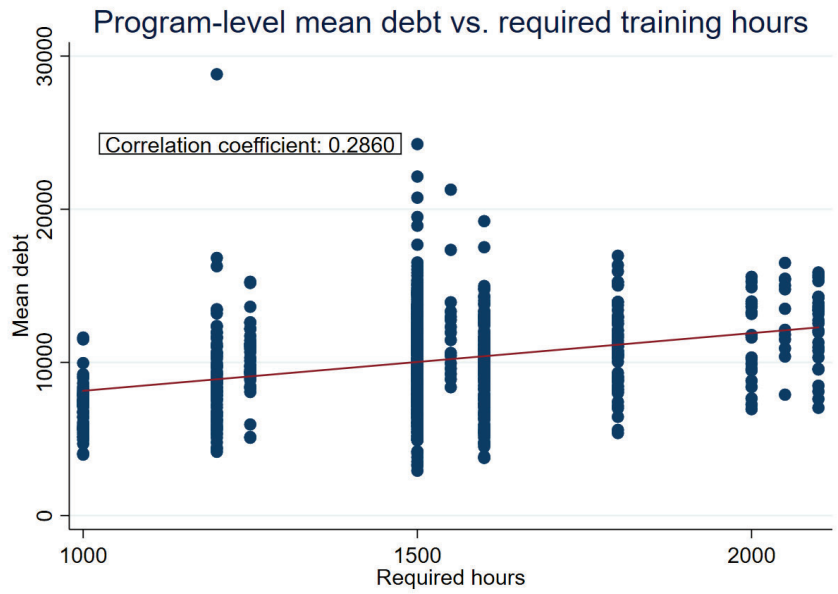


Figure 3. State-Level Correlation Between Licensing Hours and Hourly Wages, Cosmetology Certificate Programs

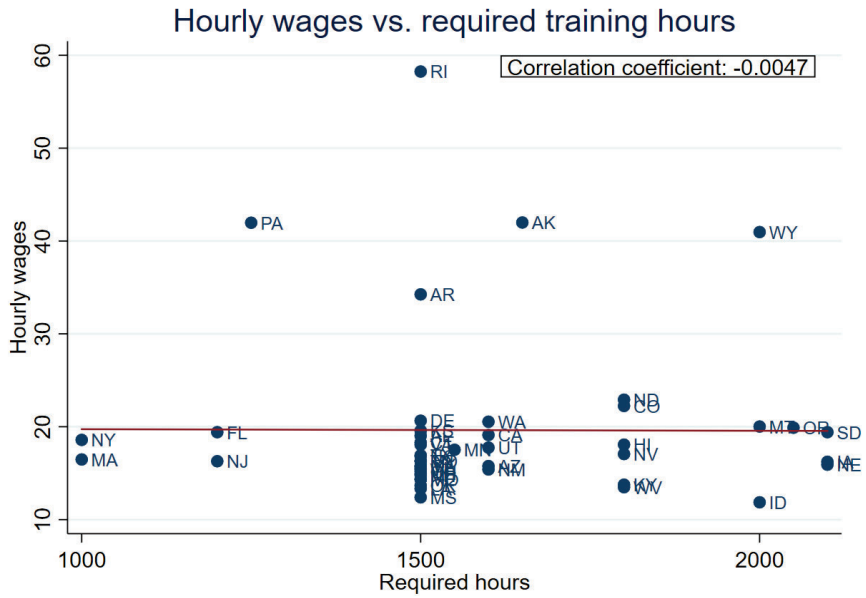


Figure 4. State-level Correlation between Licensing Hours and Mean Debt, Massage Therapy Certificate Programs

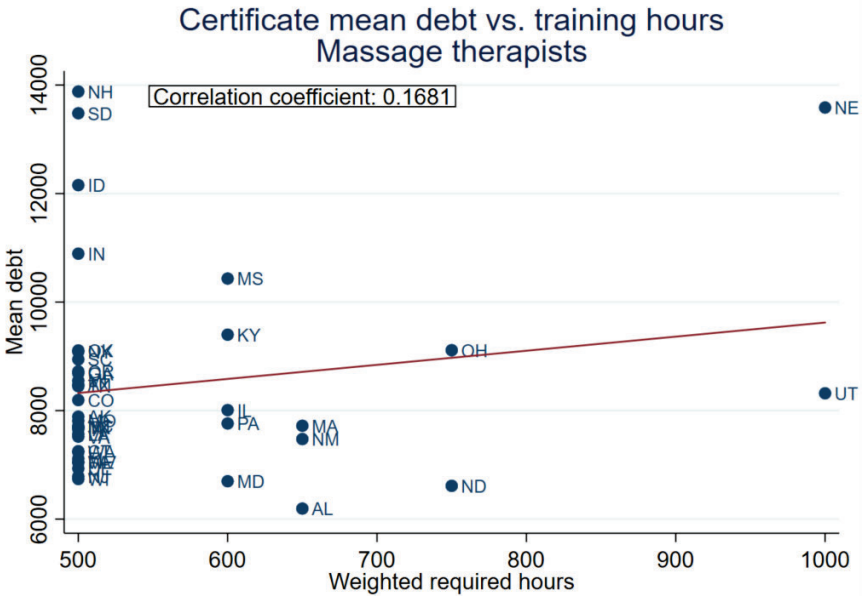


Figure 5. Massage Therapy Certificate Programs: Program-level Correlation between Licensing Hours and Mean Debt

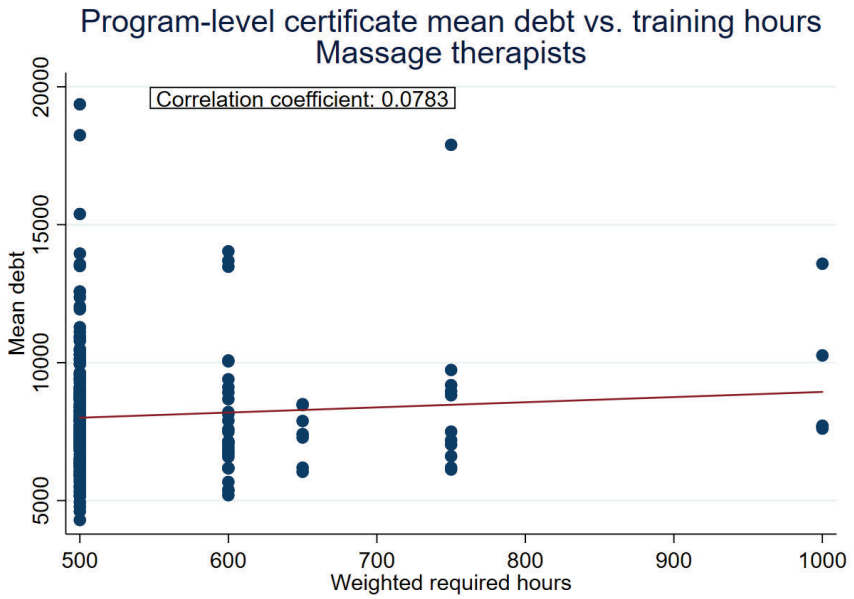
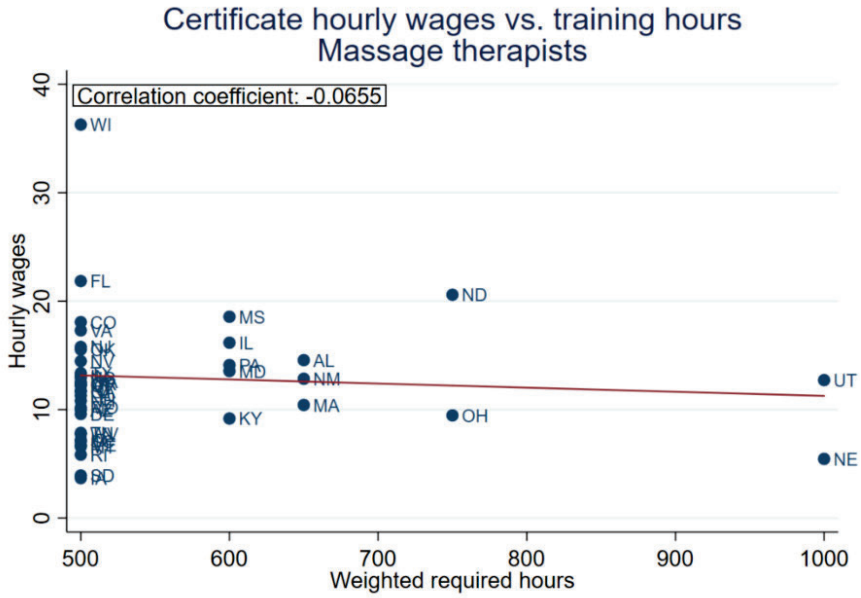


Figure 6. State-level Correlation between Licensing Hours and Hourly Wages, Massage Therapy Certificate Programs



ENDNOTES

1 https://www.nytimes.com/2018/12/26/business/cosmetology-school-debt-iowa.html.

2 Cellini, S. and K.J. Blanchard, 2022. "Hair and Taxes: Cosmetology Programs, Accountability Policy, and the Problem of Underreported Income" PEER Research Project.

3 E.g., Dallas Morning News.

4 See Kleiner, M.M. and A.B. Krueger (2013), "Analyzing the Extent and Influence of Occupational Licensing on the Labor Market," Journal of Labor Economics, 31(2): S173-S202.

5 C. Wheelan (2002), *Naked Economics*, p. 143.

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8 Nunn, R. "How Occupational Licensing Matters for Wages and Careers | The Hamilton Project." Accessed January 31, 2022. https://www.hamiltonproject.org/papers/how_occupational_licensing_matters_for_wages_and_careers.

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13 Dillender, Marcus, Anthony T. Lo Sasso, Brian J. Phelan, and Michael R. Richards. "Occupational Licensing and the Healthcare Labor Market." Working Paper. Working Paper Series. National Bureau of Economic Research, January 2022. https://doi.org/10.3386/w29665.

14 The medical assistants they study are nurse practitioners and dental hygienists.

15 Timmons, Edward J., and Robert J. Thornton. "There and Back Again: The De-Licensing and Re-Licensing of Barbers in Alabama." *British Journal of Industrial Relations* 57, no. 4 (2019): 764–90. https://doi.org/10.1111/bjir.12438.

16 C. Wheelan (2010). Naked Economics, Norton. p. 183.

17 See for example, New York Times and National Public Radio. The case was *Clayton v. Steinagel*, 885 F. Supp. 2d 1212 (D. Utah 2012).

18 https://www.nytimes.com/2018/12/26/business/cosmetology-school-debt-iowa.html.

19 https://www.nytimes.com/2018/12/26/business/cosmetology-school-debt-iowa.html.

20 Interviews with NCSL staff suggest that the 30 occupations were a convenience sample based on occupations with readily available data.

21 See Cellini and Goldin (2014) for counts of cosmetology programs not participating in Title IV programs.

22 E.g., Dallas Morning News, AZ Central, and NBC News.

23 Cosmetology at the 4-digit level includes barbers, cosmetologist, manicurists, and skin care specialists. We weight the hours by the proportion of awards in each category. In contrast, massage therapy is the only program in its 4-digit CIP code.

24 Debt results are nearly identical when using median debt, rather than mean. Available on request.

EXHIBIT 2

AIR®
AMERICAN INSTITUTES FOR RESEARCH®

Examination of Cosmetology Licensing Issues

Abridged Report: Data Tables for Outcomes of Interest

American Institutes for Research
1000 Thomas Jefferson St., NW
Washington, D.C. 20007

August 30, 2016

Examination of Cosmetology Licensing Issues

Abridged Report: Data Tables for Outcomes of Interest

Revised August 2016

Kaila M. Simpson, M. A.
Cheryl Hendrickson, Ph. D.
Dwayne Norris, Ph. D.
Randy J. Vander Molen
David Vestal
Kathryn Kavanagh
Samantha Lilly, M. S.
Gauri Rege, M. A.
Deeza-Mae Smith

1000 Thomas Jefferson Street NW
Washington, D.C. 20007-3835
202.403.5000

www.air.org

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DATA TABLES FOR OUTCOMES OF INTEREST

Given the wide range of total curriculum hours required for cosmetology licensure (i.e., 1,000 to 2,300 hours), there is debate surrounding the appropriate number of curriculum hours to achieve desired outcomes. However, there do not appear to be documented explanations for how each state determines the required curriculum hours (whether through a review of curricula, analysis of training effects on outcomes, or another approach), and there is little current evidence to support the notion that higher curriculum hour requirements lead to more positive industry outcomes.

There were several outcomes of particular interest throughout this research, as outlined in Exhibit 1.

Exhibit 1. Industry Outcomes of Interest

Education Outcomes	Employment Outcomes
• School Program Length • Graduation • Licensing Exam Performance • Student Financial Stability • School Financial Stability	• Employment Rates • Wages

The purpose of this abridged report is to highlight the results for each of these outcomes. The full set of results can be found in the report titled Examination of Cosmetology Licensing Issues: Data Report.

Education Outcomes

Education outcomes of interest included school program length, graduation, licensing exam performance, student financial stability, and school financial stability. Exploring the relationship between curriculum hour requirements and these education outcomes is important for determining whether and how the number of curriculum hours may affect graduates' success and school financial stability. Although establishing a direct causal link between curriculum hours and any education variable is not possible without a controlled experimental research design to rule out alternative explanations, correlational analysis can provide preliminary evidence of an observed relationship between curriculum hours and other variables of interest.

It should also be noted that the correlations were examined at the state level rather than school level (i.e., data obtained from schools were aggregated to the state level before performing the analysis) given that the interest is in the implications of state-level educational variables such as curriculum hours and various educational outcomes in a given state. Therefore, observed relationships are based on relatively small sample sizes and the findings must be interpreted with caution.

In 2010, the U.S. Department of Education (DOE) issued a set of regulations in an effort to improve the accountability and success of postsecondary programs in preparing students for gainful employment. These regulations require qualifying institutions to disclose certain information, including graduation rates, job placement rates, cohort default rates, and student loan debt. Furthermore, schools are often required to disclose exam pass rates and financial metrics to maintain accreditation status. It is important to note that although institutions are required to provide this information, the method through which some of this information is collected and reported varies across schools and may not allow for direct comparisons.

School Program Length

School program length indicates the estimated number of months a cosmetology student takes to complete a school program. This outcome and its relationship with curriculum hours is important to explore because opponents of licensing may view a longer timeline from enrollment to completion as a barrier to graduation and, therefore, entry into the profession. School-level data for this variable were obtained from the National Center for Education Statistics (NCES)[1] for the 2015-2016 school year. Exhibit 2 provides a summary of school program length; for the data by state, refer to Appendix A: State-Level Data.

Exhibit 2. Summary of School Program Length

	n*	Minimum	Maximum	Median	*M***	*SD***
Estimated Time to Completion (Months)	11	9.1	15.6	14.7	13.0	2.3

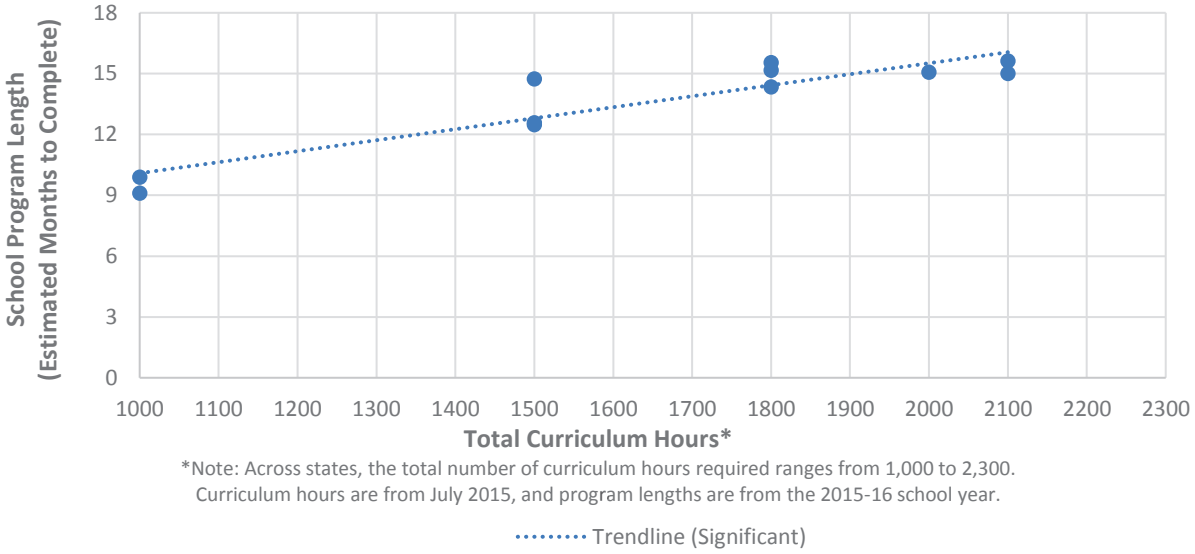
Note: n = sample size; *M* = mean; *SD* = standard deviation.
***This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.
**This mean was calculated by averaging the data across all schools in the sample (n = 243), and the standard deviation was based on this mean.
Information regarding these data:

- Excluded from this data set are large institutions with campuses in multiple states.

The state-level estimated time to completion ranges from 9.1 to 15.6 months, with an average of 13.0 (*SD* = 2.3). To determine whether the total number of curriculum hours across states may be associated with the program length, a correlational analysis at the state level was conducted. Results of this analysis are presented in Exhibit 3.

[1] http://nces.ed.gov/collegenavigator/

Exhibit 3. Curriculum Hours and School Program Length



The graph in Exhibit 3 illustrates a strong positive and significant relationship between the total number of curriculum hours and the school program length in months ($r = .92$, $p < .01$), which suggests that students in states with higher curriculum hour requirements experience a longer timeline from enrollment to completion of hours, and vice versa. The strong relationship between these variables is logical, and in many cases the length of a program may be a nearly interchangeable proxy to a state's curriculum hour requirement. However, these analyses are correlational in nature and there may be other variables that impact school program length.

Graduation

Graduation rates represent the percentage of students that successfully completed all requirements for graduation, which—in addition to completing the required curriculum hours—may also include non-academic requirements such as paying all tuition and fees.[2] This outcome and its relationship with curriculum hours is important to explore because opponents of licensing may view higher requirements for curriculum hours as a barrier to graduation and, therefore, entry into the profession. State-level data for graduation were available from the National Accrediting Commission of Career Arts and Sciences (NACCAS) for NACCAS-accredited schools. Specifically, this data set includes graduation rates that were calculated by taking the *number of students who were scheduled to graduate in 2013 (as reported by the school), and determining the percentage of these students who actually graduated prior to November 30, 2014 (as reported by the school)*, aggregated by state (NACCAS, 2014). Exhibit 4 provides a summary of graduation rates; for the data by state, refer to Appendix A: State-Level Data.

[2] Although school program completion (i.e., completing one's hours) may be a preferred variable for the analysis of licensing requirements' impact on entry into the field because it is not as clearly impacted by financial requirements, data on this variable were not available at the time of this research.

Exhibit 4. Summary of Graduation (NACCAS-Accredited Schools Only)

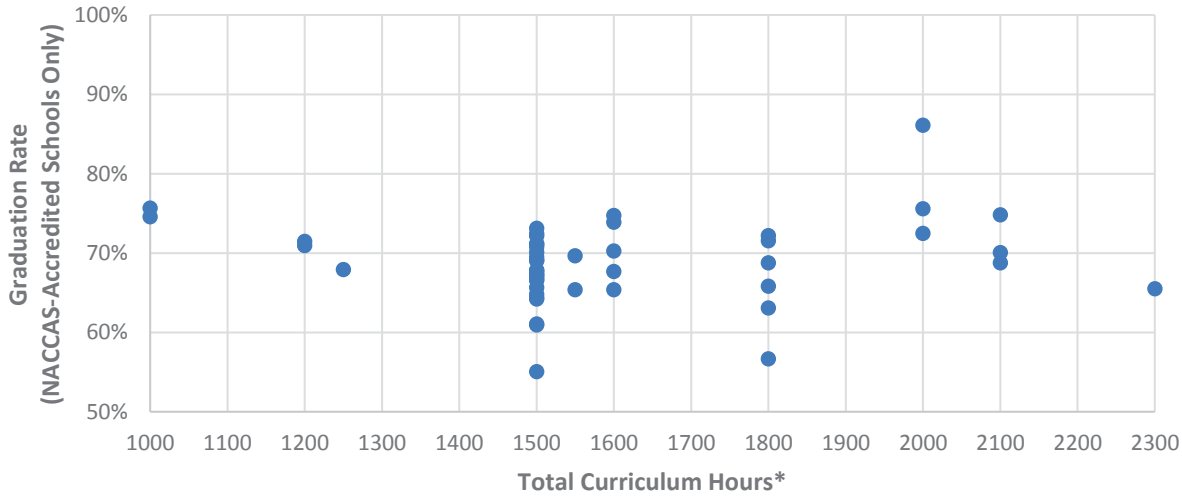
	n*	Minimum	Maximum	Median	*M***	*SD***
Graduation Rate (%)	50	55.1	86.1	68.9	69.6	5.1

Note: n = sample size; *M* = mean; *SD* = standard deviation.
*This sample size (n) indicates the number of states (including Washington, D.C.) that were included in the data, and does not indicate the number of schools represented overall.
**Mean was calculated by dividing the *total number of students who graduated* in the sample by the *total number of students scheduled to graduate* in the sample, and the standard deviation was based on this mean.
NACCAS provided the following information regarding these data:

- The data are not specific to cosmetology programs and include other programs within the beauty and wellness industry such as barbering, esthetics, manicuring, massage therapy, and instructors. There are also some schools included that have more general *wellness* programs (e.g., medical assistant, patient care assistant) but these wellness programs likely account for less than a tenth of a percent of the data.

The state-level graduation rates range from 55% to 86%, with an average of nearly 70% (*M* = 69.6%, *SD* = 5.1%). To determine whether the total number of curriculum hours across states is related to graduation rates, a correlational analysis was conducted. Results of this analysis are presented in Exhibit 5.

Exhibit 5. Curriculum Hours and Graduation Rates



*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and graduation rates are from 2013-2014.

The graph in Exhibit 5 shows the variability in graduation rates across the range of total curriculum hours. Statistically, there is no evidence of a relationship[3] between total curriculum hours and graduation rates in this sample of NACCAS-accredited schools. This analysis is interesting to consider in combination with the previous analysis for school program length; although higher hours may be related to longer time to complete the program, these students are not necessarily lagging in terms of graduation.

Licensing Exam Performance

Licensing exam pass rates represent the proportion of licensing candidates that score above the threshold (typically 70-75% of questions answered correctly) that is thought to represent the

[3] The correlation was not significant relative to the standard alpha level (*p*) of .05.

minimum entry-level requirements for being a practitioner. The majority of states administer both written and practical licensing exams, and pass rates are calculated separately for each section. Exam pass rates and their relationship with curriculum hours is important to explore to determine whether states with a higher requirements for curriculum hours may be associated with more safe and competent licensing candidates. The usefulness of this variable is limited by several factors, including the fact that there are a number of exam providers across states, there is often little variability in observed state-level pass rates, the data usually include repeat test takers (who have had the advantage of taking the test before), and not all examinees may have obtained the stated curriculum hours for that state (instead choosing an apprenticeship substitution).

State-level data on exam pass rates were obtained from two sources, and these data are described below and summarized in Exhibit 6.

The first sample included overall pass rate data from NACCAS for NACCAS-accredited schools. Specifically, these data included licensure rates that were calculated by taking the *number of graduates (from the 2013 graduation rate) who sat for all sections of their required licensure exam prior to November 30, 2014 (as reported by the school) and determining the percentage that passed*[4] *all sections of the exam prior to November 30, 2014 (as reported by the school); NACCAS, 2014).* These data were not broken down by written and practical exam sections. NACCAS data exist for 49 states (excluding Alaska) and Washington, D.C. For the data by state, refer to Appendix A: State-Level Data.

The second sample included written and practical exam section pass rate data from NIC. Specifically, these data include exam pass rates that were calculated by dividing the *number of examinees who passed each section between February 1 and August 24, 2015* by the *number of examinees who sat for each section between February 1 and August 24, 2015.* Because these data only include the states that administer the NIC exam sections, written exam pass rates are available for 28 states and Washington, D.C., and practical exam pass rates are available for 21 states. For the data by state, refer to Appendix A: State-Level Data.

[4] This includes not only those that passed on their first attempt, but also those that failed on their first attempt and re-took and passed all sections of the exam prior to November 30, 2014.

Exhibit 6. Summary of Exam Pass Rates

	n*	Minimum	Maximum	Median	*M***	*SD***
Overall Pass Rate (%) *(NACCAS-Accredited Schools Only)*	50	85.7	100.0	97.2	93.6	4.2
NIC Written Exam Pass Rate (%)	29	66.4	100.0	90.4	85.0	7.7
NIC Practical Exam Pass Rate (%)	21	81.8	100.0	97.4	93.7	5.2

Note: n = sample size; *M* = mean; *SD* = standard deviation.
*This sample size (n) indicates the number of states (including Washington, D.C.) that were included in the data, and does not indicate the number of schools represented overall.
**The mean for overall pass rate was calculated by dividing the *total number of examinees who passed all sections of the exam* in the sample by the *total number of examinees who sat for all sections of the exam* in the sample. The means for written and practical exam pass rates were calculated by dividing the *total number of examinees who passed each section* in the sample by the *total number of examinees who sat for each section* in the sample. The standard deviations were based on these means.
NACCAS provided the following information regarding the *overall pass rate* data:

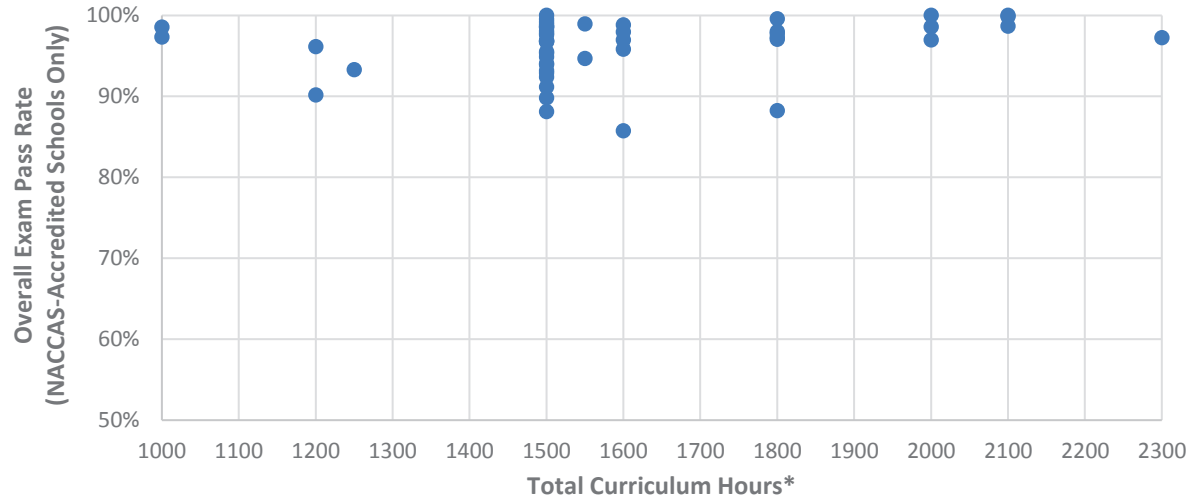
- The data are not specific to cosmetology programs and include other programs within the beauty and wellness industry such as barbering, esthetics, manicuring, massage therapy, and instructors. There are also some schools included that have more general *wellness* programs (e.g., medical assistant, patient care assistant) but these wellness programs likely account for less than a tenth of a percent of the data.
- Not all states issue exam reports to the schools. In states where no exam report is issued, it can be close to impossible for a school to determine its pass rate, because the information is not available. In these cases, schools must try to obtain the results by using an online license verification (which confirms licensed students, but does not show exam results) and by contacting students directly. It is possible that pass rates may be inflated for states where no exam report is issued because failing scores may be underreported.

Within the NACCAS data set, the state-level overall exam pass rates range from 86% to 100% (*M* = 93.6%, *SD* = 4.2%). Within the NIC exam data set, the written and practical exam pass rates range from 66% to 100% and 82% to 100% respectively. Across states, the average NIC pass rates are consistently higher for the practical section (*M* = 93.7%, *SD* = 5.2%) than for written (*M* = 85.0%, *SD* = 7.7%), and the difference is statistically significant.[5] Because the practical exam requires the use of expert raters, a comparison of scores may not be appropriate without standardized rater training (Feldman, Lazzara, Vanderbilt, & DiazGranados, 2012) and implementation of more objective rating systems such as behaviorally anchored rating scales (BARS; Debnath, Lee, & Tandon, 2015). AIR collected anecdotal evidence from SMEs that many practical exam raters tend to rate leniently, and are reluctant to fail examinees due to the face-to-face context of the practical exam. This may be one of many contributing factors to the observed difference in pass rates for written and practical sections of the exam. It should be noted that, within the NIC data set, all states had a curriculum hour requirement above the overall U.S. median (i.e., 1,500), therefore restricting the range of curriculum hours represented in this data set.

To determine whether the total number of curriculum hours across states may be related to exam pass rates, correlational analyses were conducted within the NACCAS data set. Results of this analysis are presented in Exhibit 7. However, correlational analyses were not conducted for the NIC data set because of there was a lack of available data for states with curriculum requirements below the median.

[5] A paired-samples t-test was conducted in the states where both written and practical pass rates were available (n = 20), and there was a significant difference in the pass rates for the theory (*M* = 90.1%, *SD* = 5.2%) and practical (*M* = 95.2%, *SD* = 5.0%) exam sections; *t*(19) = -3.38, *p* = 0.003.

Exhibit 7. Curriculum Hours and Overall Exam Pass Rates (NACCAS-Accredited Schools Only)



*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and overall exam pass rates are from 2014.

The graph in Exhibit 7 illustrates the lack of apparent relationship between the total number of curriculum hours and overall exam pass rates for NACCAS-accredited schools, and the correlational analysis resulted in a non-significant finding.[6] This finding may be due, in part, to the small range of variability in overall pass rates for this sample. Specifically, when a sample has a restricted range of scores, the correlation will be reduced.

Student Financial Stability

An important outcome to examine in relation to curriculum hours is student financial stability, because opponents of licensing may view negative financial consequences (e.g., higher program expenses, higher debt) in states with higher requirements for curriculum hours as evidence of higher curriculum hours causing a financial burden for students that may, in turn, cause a barrier to entry into the profession. We examined several variables that serve as proxies for student financial stability: (1) school program expenses, (2) Pell Grants, (3) student loan debt, and (4) cohort default. Each analysis is discussed below.

School Program Expenses

In addition to standard living expenses (e.g., rent, food), students incur direct educational expenses to attend cosmetology school programs, such as tuition, books, and other supplies. School-level data for tuition and books/supplies were obtained from the NCES[7] for the 2015-2016 school year. Exhibit 8 provides a summary of school program expenses; for the data by state, refer to Appendix A: State-Level Data.

[6] The correlation was not significant relative to the standard alpha level (p) of .05.
[7] http://nces.ed.gov/collegenavigator/

Exhibit 8. Summary of School Program Expenses

	n*	Minimum	Maximum	Median	*M***	*SD***
Tuition for Full Program ($)	11	12,263.1	19,235.2	14,511.9	14,611.2	2,300.4
Books/Supplies for Full Program ($)	11	1,111.6	2,269.3	1,673.8	1,700.5	385.4

Note: n = sample size; *M* = mean; *SD* = standard deviation.
***This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.
**Means were calculated by averaging the data across all schools in the sample (n = 244 for tuition and n = 231 for books/supplies), and the standard deviations were based on these means.
Information regarding these data:

- Excluded from this data set are large institutions with campuses in multiple states.

Tuition expenses range from about $12,250 to $19,250 with an average of $14,611.2 (*SD* = $2,300.4). Expenses for books/supplies range from about $1,100 to $2,275 with an average of $1,700.5 (*SD* = $385.4). To determine whether the total tuition costs and total costs for books and supplies are related to the number of curriculum hours across states, two separate correlational analyses were conducted at the state level and are presented in Exhibit 9 (tuition) and Exhibit 10 (books/supplies).

Exhibit 9. Curriculum Hours and Tuition

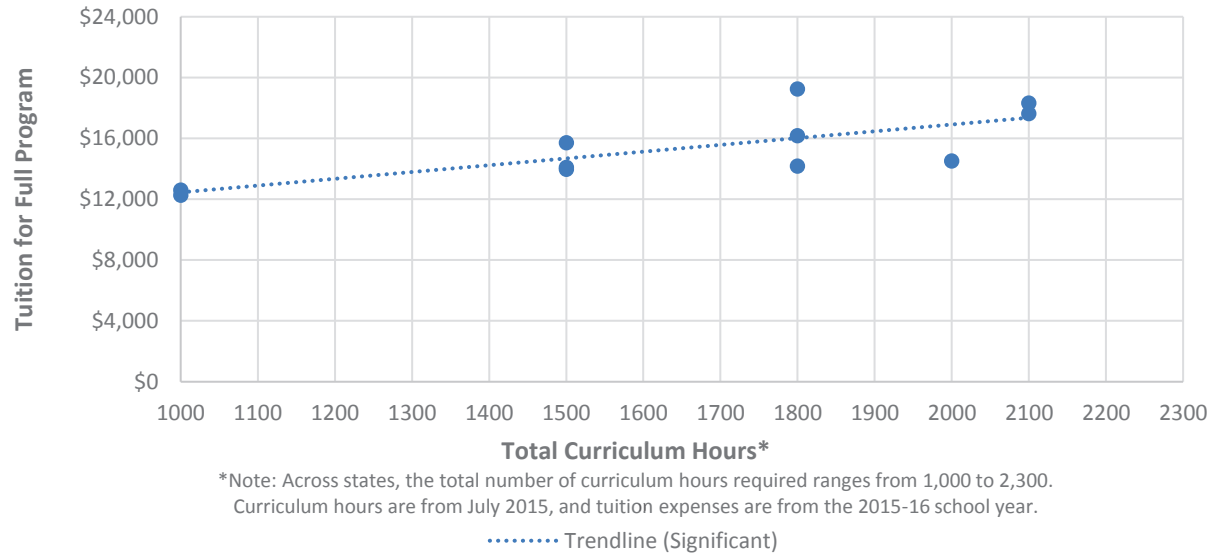
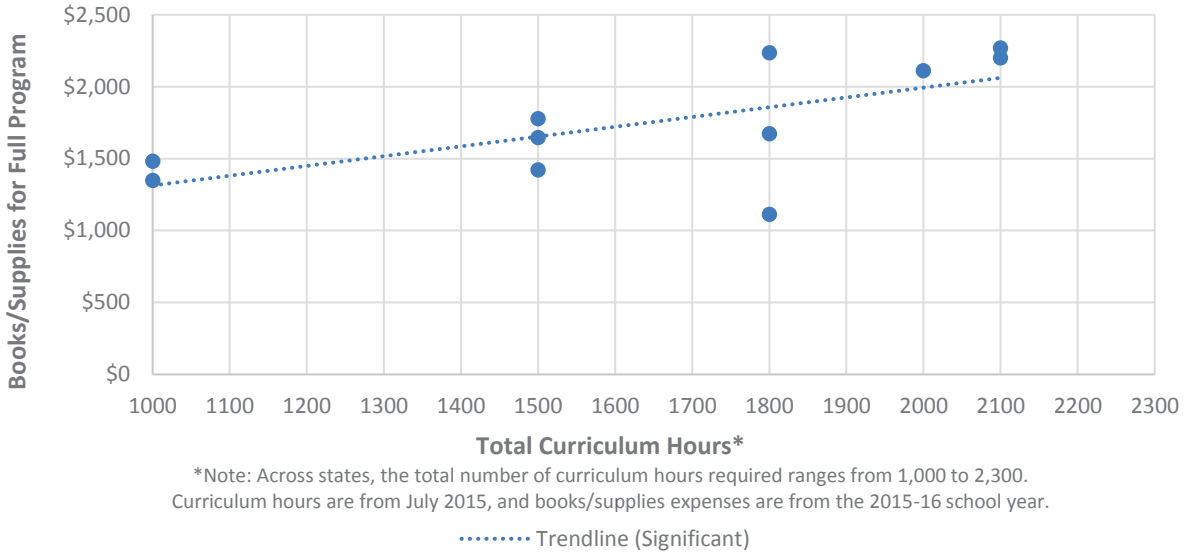


Exhibit 10. Curriculum Hours and Books/Supplies



The graph in Exhibit 9 shows a positive and significant relationship between the total number of curriculum hours and tuition expenses (r =. 76, p < .01), and the graph in Exhibit 10 shows a positive and significant relationship between the total number of curriculum hours and expenses for books and supplies (r =. 66, p < .05). These results suggest that students in states with a higher number of total curriculum hours incur higher expenses to attend cosmetology school for both tuition and books and supplies.

Student Loan Debt

Many students obtain loans for their education with the expectation that they will be able to pay off the loan once they obtain employment after graduation. However, in cosmetology, as in other industries, graduates are often not able to make the required payments with an entry-level salary. It is important to examine the relationship between curriculum hours and student loan debt because opponents of cosmetology licensing may view higher debt in states with higher requirements for curriculum hours as evidence of higher curriculum hours causing a financial burden for students that may, in turn, cause a barrier to entry into the profession. However, the usefulness of this variable is limited by several factors. For example, it could be confounded in many ways, such as by a geographical area's economic status or students' individual differences (e.g., resources or motivation with regard to applying for jobs or repaying a loan).

State-level data on median Title IV funding were obtained from individual school websites, which are assumed to be reasonably up-to-date. It should be noted that the data from this source only represent a limited sample of schools and may not include all debt incurred by students when attending cosmetology programs.

Exhibit 11. Summary of Title IV Funding

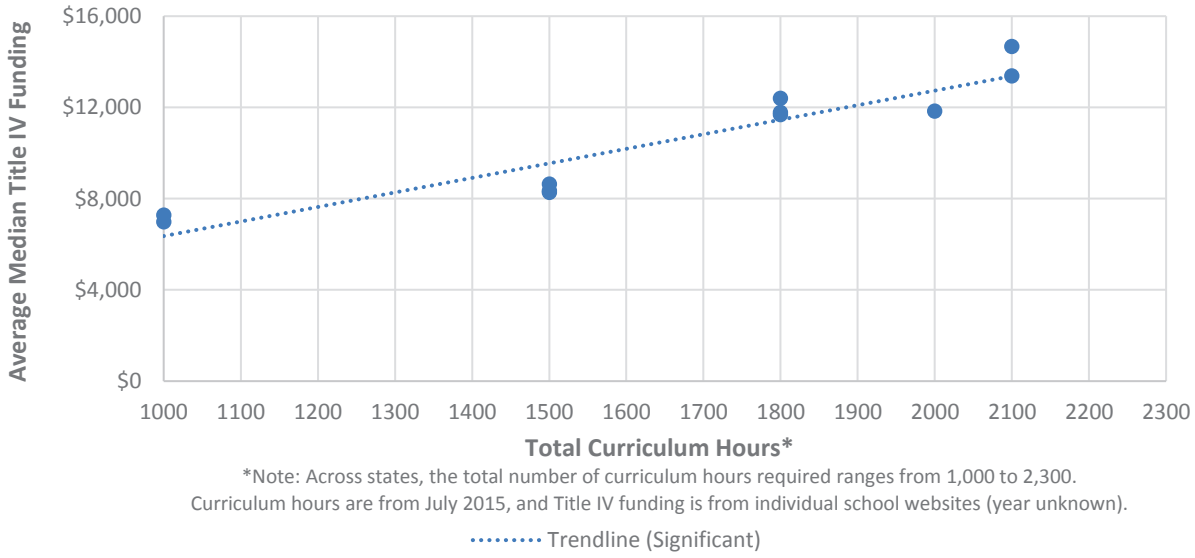
	n*	Minimum	Maximum	Median	*M***	*SD***
Median Title IV Funding	11	6,984.4	14,666.7	11,685.4	9,532.8	2,691.4

Note: n = sample size; *M* = mean; *SD* = standard deviation.
*This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.
**Mean was calculated by averaging the data across all schools in the sample (n = 154), and the standard deviation was based on this mean.
Information regarding these data:

- Excluded from this data set are large institutions with campuses in multiple states.

Median Title IV funding ranges from about $7,000 to $14,750, with an average of $9,532.8 (*SD* = $2,691.4). To determine whether the total number of curriculum hours across states may be associated with Title IV funding, a correlational analysis at the state level was conducted. These results are presented in Exhibit 12.

Exhibit 12. Curriculum Hours and Median Title IV Funding



The graph in Exhibit 12 illustrates a positive and significant relationship between the total number of curriculum hours and the median Title IV funding amount ($r = .94$, $p < .01$). In other words, students that attend programs in states with higher curriculum hours tend to incur higher median funding, on average. Although significant, these analyses are correlational in nature and it should be noted that there are likely additional variables that impact loan amounts.

Cohort Default

The cohort default rate (CDR) is a measure of federal loan borrowers that enter repayment in a given fiscal year (FY; October 1 to September 30) and default before the end of the next one to two fiscal years. This outcome and its relationship with curriculum hours is important to explore because opponents of licensing may view higher cohort default rates in states with higher requirements for curriculum hours as evidence of higher curriculum hours causing a financial burden for students that may, in turn, cause a barrier to entry into the profession. However, the usefulness of this variable is limited by several factors. For example, it could be confounded in

many ways, such as by a geographical area's economic status or students' individual differences (e.g., resources or motivation with regard to applying for jobs).

School-level data for this variable were obtained from DOE. Specifically, this data set included the FY 2012 official 3-year cohort default rates for cosmetology programs at schools participating in the Title IV student financial assistance programs, calculated as the *percentage of a school's borrowers who enter repayment on certain Federal Family Education Loan (FFEL) Program or William D. Ford Federal Direct Loan (Direct Loan) Program loans during a particular federal FY, and default or meet other specified conditions prior to the end of the second following FY.*[8] Exhibit 13 provides a summary of cohort default rates; for the data by state, refer to Appendix A: State-Level Data.

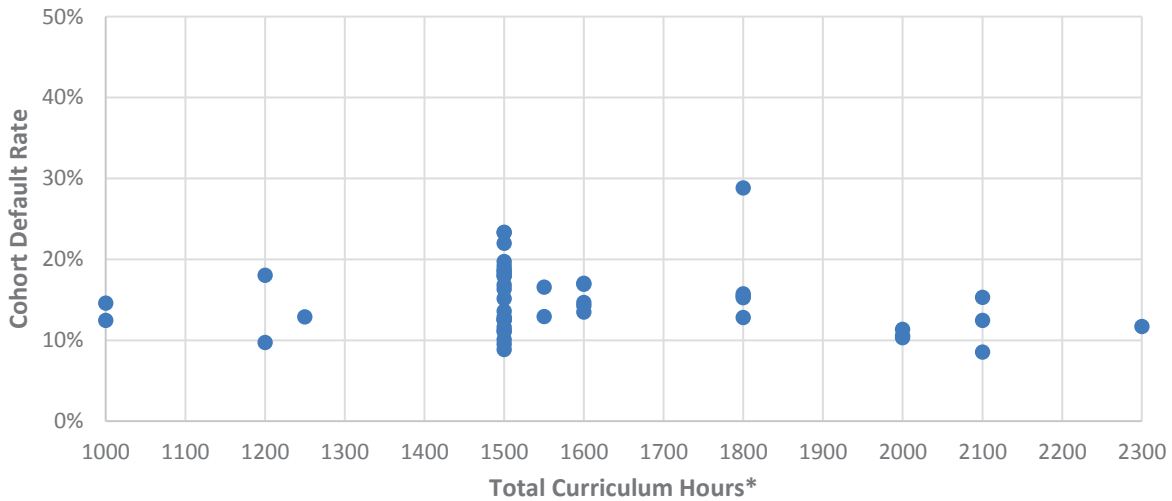
Exhibit 13. Summary of Cohort Default Rates (Title IV Cosmetology Programs Only)

	n*	Minimum	Maximum	Median	*M***	*SD***
Cohort Default Rate (%)	48	8.5	28.8	14.4	17.1	4.7

Note: n = sample size; *M* = mean; *SD* = standard deviation.
*This sample size (n) indicates the number of states (including Washington, D.C.) that were included in the data, and does not indicate the number of schools represented overall.
**This mean for this analysis was calculated by dividing *total number of borrowers who enter repayment and default* in the sample by the *total number of borrowers who enter repayment* in the sample, and the standard deviation was based on this mean.
Information regarding these data:
- Excluded from this data set are large institutions with campuses in multiple states.

The state-level cohort default rates range from 8.5% to 28.8%, with an average of 17.1% (*SD* = 4.7). To determine whether the total number of curriculum hours across states may be associated with cohort default rate, a correlational analysis at the state level was conducted. These results are presented in Exhibit 14.

Exhibit 14. Curriculum Hours and Cohort Default Rate (Title IV Schools Only)



*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and cohort default rates are from 2012.

[8] Refer to the Cohort Default Rate Guide (http://ifap.ed.gov/DefaultManagement/finalcdrg.html) for a more in-depth description of cohort default rates and how the rates are calculated.

The graph in Exhibit 14 shows the variability in cohort default rate across the range of total curriculum hours. Statistically, there is no evidence of a relationship[9] between these variables for this sample of Title IV cosmetology programs.

Pell Grants

In addition to loans, students may receive grants to pay for schooling. The most popular federal grant is called a Pell Grant, which is limited to students with financial need, who have not earned their first bachelor's degree, or who are enrolled in certain post-baccalaureate programs through participating institutions. A Pell Grant, unlike a loan, does not have to be repaid; as such, the impact of this cost is incurred by taxpayers. In the 2010-2011 academic year, Pell Grants cost taxpayers $35.6 billion (Robinson & Cheston, 2012). Therefore, it is important to explore the relationship between curriculum hours and the amount of Pell Grants to help determine the return on investment for higher total curriculum hours. In other words, if states with higher curriculum hour requirements are not found to relate more strongly to positive outcomes than do states with lower requirements, it may indicate that grant dollars could be allocated elsewhere to be more effective (assuming grant amounts are correlated with the total number of curriculum hours per state).

The maximum amount for a Pell Grant award changes yearly, and the amount awarded of this maximum to any one student depends on the student's financial need, cost of attendance, status as a full-time or part-time student, and plans to attend school for a full academic year or less (Federal Student Aid, 2016).[10] School-level data for this variable were obtained from the NCES[11] for the 2015-2016 school year. Specifically, this data set included the average Pell Grant for cosmetology programs in a single year (operationalized as 900 hours) for full-time beginning undergraduate students (i.e., those who are entering postsecondary education for the first time). To extrapolate the Pell Grant amount for the full curriculum hour requirement, a multiplier was applied to the data (e.g., programs with 1,800 hours were given a multiplier of two). Exhibit 15 provides a summary of Pell Grants for one year and full program; for the data by state, refer to Appendix A: State-Level Data.

Exhibit 15. Summary of Pell Grants

	n*	Minimum	Maximum	Median	*M***	*SD***
Pell Grant for One Year ($)	11	4,112.4	4,674.9	4,473.4	4,360.8	179.7
Pell Grant for Full Program ($)	11	4,712.8	10,658.0	8,736.7	7,316.9	2,158.6

Note: n = sample size; *M* = mean; *SD* = standard deviation.
*This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.
**The means for this analysis were calculated by averaging the data across all schools in the sample (n = 231), and the standard deviations were based on these means.
Information regarding these data:

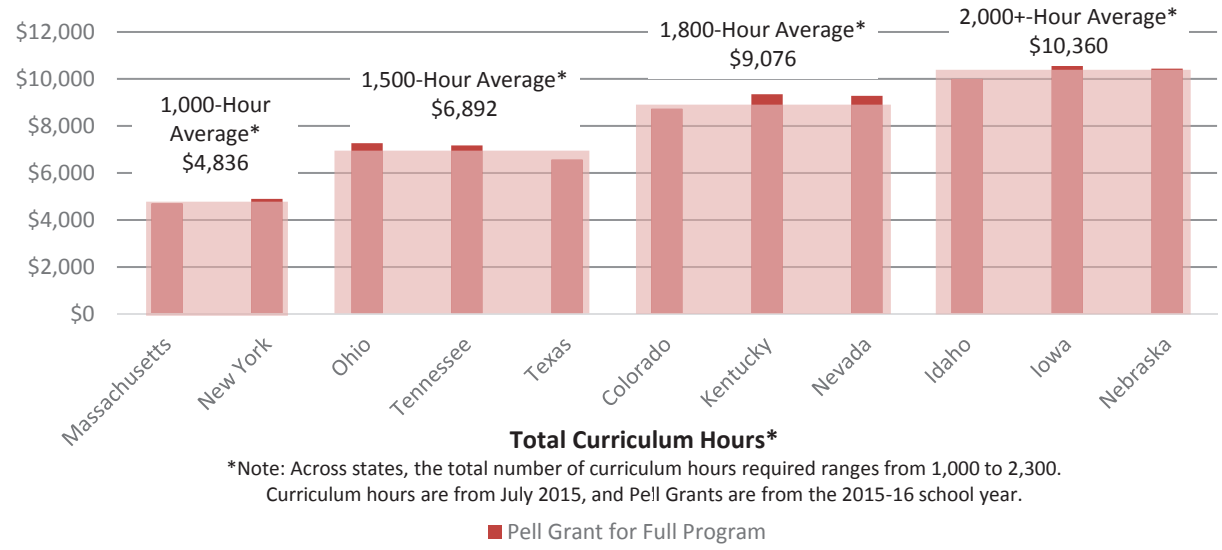
- Excluded from this data set are large institutions with campuses in multiple states.

Pell Grant award amounts for one year range from about $4,000 to $4,750, with an average of $4,360.8 (*SD* = $179.7). For a full program, award amounts range from about $4,750 to

[9] The correlation was not significant relative to the standard alpha level (*p*) of .05.
[10] For more information, visit https://studentaid.ed.gov/sa/types/grants-scholarships/pell.
[11] http://nces.ed.gov/collegenavigator/

$10,750, with an average of $7,316.9 (*SD* = $2,158.6). A correlational analysis was precluded for Pell Grant amounts for a full program because curriculum hours were used to create this variable, as discussed previously; however, Exhibit 16 illustrates the clear upward trend in this variable such that as total curriculum hours increase, Pell Grant amounts for a full program also increase.

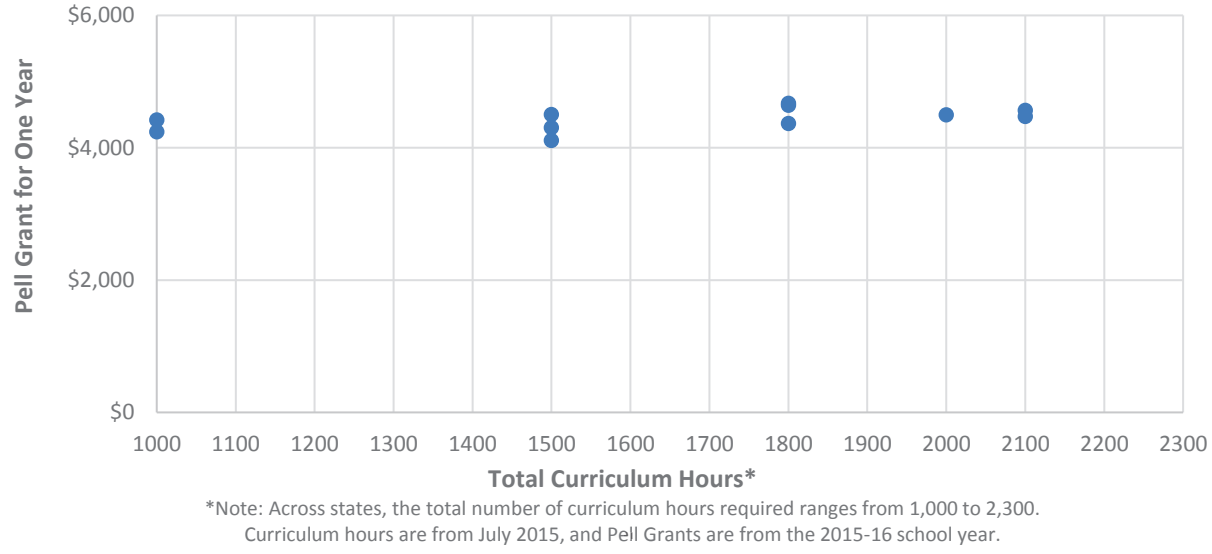
Exhibit 16. Curriculum Hours and Pell Grants for Full Program



*The group-level means were calculated by grouping schools by their total curriculum hour requirements, and averaging the Pell Grant amounts for each group. The sample size for each group is as follows: 1,000-hour n = 48; 1,500-hour n = 115; 1,800-hour n = 28; 2,000+-hour n = 39.

To determine whether the total number of curriculum hours across states may be related to the Pell Grant award amounts for one year, a correlational analysis was conducted and results are presented in Exhibit 17.

Exhibit 17. Curriculum Hours and Pell Grants for One Year



The graph in Exhibit 17 illustrates the lack of apparent relationship between the total number of curriculum hours and the Pell Grant amount for one year, and the correlational analysis resulted in a non-significant finding.[12] This finding may be due, in part, to the small range of variability in Pell Grant award amounts for this sample. Specifically, when a sample has a restricted range of scores, the correlation will be reduced. Furthermore, recall that Pell Grant award amounts are determined by several factors that do not include the number of curriculum hours (i.e., the student's financial need, cost of attendance, status as a full-time or part-time student, and plans to attend school for a full academic year or less).

School Financial Stability

School financial stability is an index of the financial health of a school, and may be defined and measured in many ways. For this particular research, a comparison of relative financial stability of schools across states was of interest to explore whether higher curriculum hours may have an impact on schools' financial stability.

State-level data for this variable were available from NACCAS for NACCAS-accredited schools. Specifically, this data set includes information on each state's 2013-2014 financial compliance rate (i.e., the *number of compliant school owners*[13] divided by the *number of school owners* in each state), and average composite score (ranging from -1 to +3, with a higher score indicating greater stability), which is a calculation involving a school's primary reserve ratio, equity ratio, and net income ratio.[14] Exhibit 18 provides a summary of school financial stability metrics in a sample of 11 states; for the data by state, refer to Appendix A: State-Level Data.

[12] The correlation was not significant relative to the standard alpha level (p) of .05.
[13] A school must meet a minimum composite score of 1.5 (or one of NACCAS' alternate criteria) to be compliant. The specific criteria for compliance with NACCAS financial requirements can be found in Standard VII, Criterion 1 of the NACCAS handbook: http://elibrary.naccas.org/InfoRouter/docs/Public/NACCAS%20Handbook/Standards%20and%20Criteria/Standard%20VII%20Financial%20Practices%20and%20Management.pdf.
[14] A detailed breakdown of the calculation for the NACCAS composite score can be found at the bottom of the NACCAS Applications and Forms website (http://naccas.org/naccas/all-applications-forms), in a Microsoft Excel file titled "Composite Score Formula."

Exhibit 18. Summary of School Financial Stability Metrics (NACCAS-Accredited Schools Only)

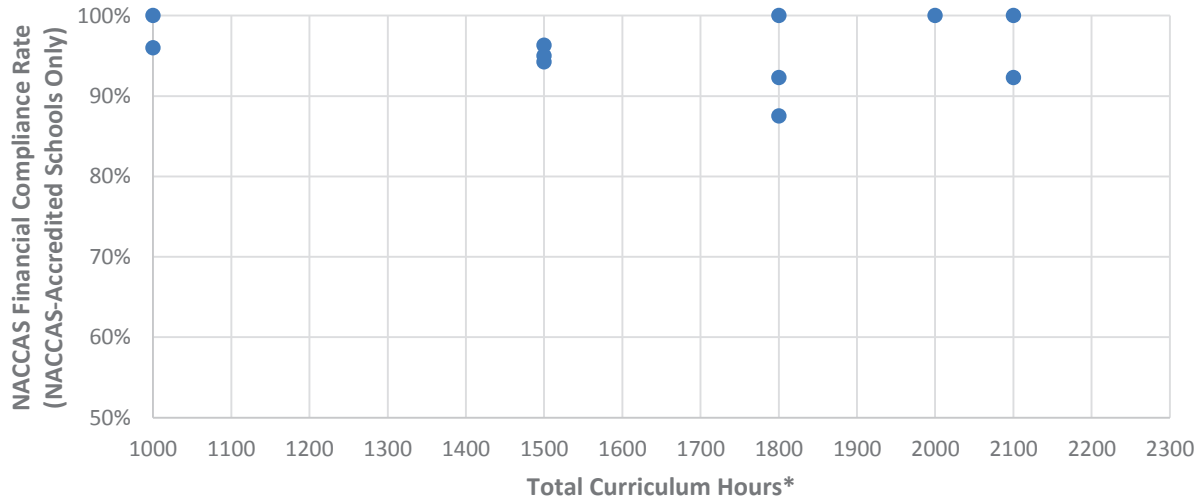
	n*	Minimum	Maximum	Median	*M***	*SD***
NACCAS Financial Compliance Rate (%)	11	87.5	100.0	96.0	95.3	3.9
Mean NACCAS Composite Score	11	1.8	2.6	2.1	2.1	0.2

Note: n = sample size; *M* = mean; *SD* = standard deviation.
*This sample size (n) indicates the number of states that were included in the data, and does not indicate the number of schools represented overall. Due to the confidential nature of these data, data were only obtained for schools within 11 states that were of particular interest during this research. Data were not obtained for Washington, D.C.
**The mean for NACCAS financial compliance rate is calculated by dividing the *total number of compliant school owners* by the *total number of school owners* in the 11-state sample. However, due to the confidentiality of school-level data, NACCAS composite scores were obtained only at the state level (i.e., the average composite score for each state), and the mean for this variable is calculated by averaging the state-level data (n = 11). The standard deviation for composite score is based on this mean.
NACCAS provided the following information regarding these data:

- The data are not specific to cosmetology programs and include other programs within the beauty and wellness industry such as barbering, esthetics, manicuring, massage therapy, and instructors. There are also some schools included that have more general wellness programs (e.g., medical assistant, patient care assistant) but these wellness programs likely account for less than a tenth of a percent of the data.
- Excluded from this data set are large institutions with campuses in multiple states.
- Because financial statements are submitted by company, not individual campus, each company's financial statements are only counted once.

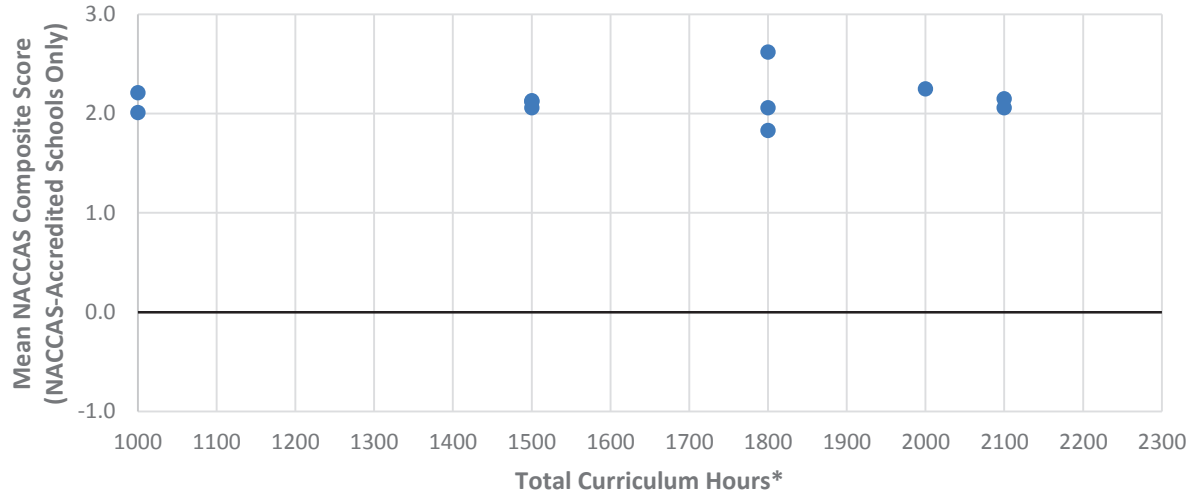
The state-level compliance rates range from 88% to 100% ($M = 95.3$, $SD = 3.9$). The state-level average composite scores range from 1.8 (just above the compliance cut-off of 1.5) to 2.6 ($M = 2.1$, $SD = 0.2$). To determine whether the total number of curriculum hours across states may be related to these school financial stability metrics, a correlational analysis at the state level was conducted. These results are presented in Exhibit 19 (compliance rate) and Exhibit 20 (composite score).

Exhibit 19. Curriculum Hours and NACCAS Financial Compliance Rates (NACCAS-Accredited Schools Only)



*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and NACCAS financial compliance rates are from 2011.

Exhibit 20. Curriculum Hours and NACCAS Composite Score (NACCAS-Accredited Schools Only)



*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and mean NACCAS composite scores are from 2011.

There is a relatively small amount of variance for both school financial stability variables in this sample of 11 states. Statistically, there is no evidence of a relationship[15] between total curriculum hours and these variables for this sample of NACCAS-accredited schools.

Conclusions

This preliminary review revealed correlational relationships between curriculum hours and education outcomes.[16] The key findings of this research are as follows:

School Program Length

- The state-level school program lengths range from 9.1 to 15.6 months, with an average of 13.0 (*SD* = 2.3).
    - There is a strong positive and significant relationship between the total number of curriculum hours and the school program length in months, which suggests that students in states with a higher curriculum hour requirements experience a longer timeline from enrollment to completion of hours, and vice versa.

Graduation

- For NACCAS-accredited schools, the state-level graduation rates range from 55% to 86%, with an average of nearly 70%.
    - Although there is variability in graduation rates across states, there is no evidence of a relationship between total curriculum hours and graduation rate for NACCAS-accredited schools.

Licensing Exam Performance

- In the sample of states that administer the NIC *written* exam, pass rates range from 66% to 100%. In the sample of states that use the NIC *practical* exam, pass rates range from

[15] The correlation was not significant relative to the standard alpha level (*p*) of .05.
[16] These relationships are correlational in nature, and causation cannot be implied.

82% to 100%. For a sample of states that use *both* NIC exam sections, the average pass rates are consistently higher for practical than for written, and the difference is statistically significant. Correlational analyses were not conducted for the NIC data set because of there was a lack of available data for states with curriculum requirements below the median (i.e., 1,500).

  - The practical exam requires the use of expert raters, and cannot be considered equivalent without standardized rater training and implementation of more objective rating systems such as behaviorally anchored rating scales. AIR collected anecdotal evidence from cosmetology SMEs that many practical exam raters tend to rate leniently, reluctant to fail examinees due to the face-to-face setting of the practical exam.

- State-level o*verall* pass rates for NACCAS-accredited schools (data were not broken down by written and practical exam sections) ranged from 86% to 100%.
  - Correlational analyses revealed that for NACCAS-accredited schools, there is no apparent relationship between the total number of curriculum hours and overall exam pass rates. This finding may be due, in part, to the small range of variability in overall pass rates for this sample.
- The usefulness of assessing licensing exam performance is limited by several factors, including the fact that there are a number of exam providers across states, there is often little variability in observed state-level pass rates, the data usually include repeat test takers (who have had the advantage of taking the test before), and not all examinees may have obtained the stated curriculum hours for that state (instead choosing an apprenticeship substitution).

Student Financial Stability

- Tuition expenses range from about $12,250 to $ 19,250 with an average of $14,611.2 (*SD* = $2,300.4). Expenses for books/supplies range from about $1,100 to $2,275 with an average of $1,700.5 (*SD* = $385.4).
  - There is a positive and significant relationship between total curriculum hours and expenses for tuition as well as books and supplies.
- The state-level cohort default rates range from 8.5% to 28.8%, with an average of 17.1%.
  - Although there is variability in cohort default rates across states, there is no evidence of a relationship between total curriculum hours and cohort default rate for this sample of Title IV cosmetology programs.
- Median Title IV funding ranges from about $7,000 to $14,750, with an average of $9,532.8 (*SD* = $2,691.4).
  - There is a positive and significant relationship between the total number of curriculum hours and the median federal loan amount.
- Pell Grant award amounts for one year range from about $4,000 to $4,750, with an average of $4,360.8 (*SD* = $179.7). To extrapolate the Pell Grant amount for the full curriculum hour requirement, a multiplier was applied to the data (e.g., programs with 1,800 hours were given a multiplier of two). For a full program, award amounts range from about $4,750 to $10,750, with an average of $7,316.9 (*SD* = $2,158.6).
  - Correlational analyses revealed that there is no apparent relationship between the total number of curriculum hours and Pell Grant award amounts for one year. This finding may be due, in part, to the small range of variability for Pell Grant award amounts for this sample.

- A correlational analysis was precluded for Pell Grant amounts for a full program because curriculum hours were used to create this variable; however, there is a clear upward trend in this variable such that as total curriculum hours increase, Pell Grant amounts for a full program also increase.

School Financial Stability

Two metrics of school financial stability were analyzed for this research, both obtained from NACCAS: the percent of compliant schools in a state and the average financial composite score.

- For NACCAS-accredited schools, financial compliance rates range from 88% to 100%, with an average of 95.3%, and average composite scores range from 1.8 (just above the financial compliance cut-off of 1.5) to 2.6, with an average of 2.1.
  - There is a relatively small amount of variance for both variables in the sample that was analyzed, and there is no evidence of a relationship between curriculum hours and these variables for this sample of NACCAS-accredited schools.

Employment Outcomes

Employment outcomes of interest included employment rates, and wages. It is important to explore the relationship between curriculum hour requirements and these employment outcomes to determine whether and how curriculum hours be related to the number of cosmetology students that enter into these fields, and the economic success of practitioners once on the job. Although establishing a direct causal link between curriculum hours and any employment variable is not possible without a controlled experimental research design to rule out alternative explanations, correlational analysis can provide preliminary evidence of an observed relationship between curriculum hours and other variables of interest.

To explore the impact that the total number of curriculum hours may have on these employment outcomes, state-level outcome data were compiled. AIR used the Bureau of Labor Statistics (BLS)[17] as the source for all employment data presented in this section of the report. Each analysis is described below, followed by results.

Employment Rates

BLS (2015) projects a growth of 13% for cosmetology over the time period of 2012-2022. However, policy makers in the cosmetology industry are concerned that a high number of curriculum hours may be perceived by aspiring practitioners as a barrier to entry into the field and may discourage would-be practitioners from pursuing these occupations. Given this, employment rate is an important variable for analysis.

The BLS (2016) data for "employment per 1,000 jobs" were used as the employment rate for this analysis, and indicates the number of cosmetology jobs per 1,000 jobs in a given area.[18] Exhibit 21 provides a summary of employment rates; for the data by state, refer to Appendix A: State-Level Data.

[17] BLS is a federal agency that collects, compiles, analyzes, and disseminates economic data to the public.
[18] Learn more at http://www.bls.gov/oes/current/oes_abo.htm.

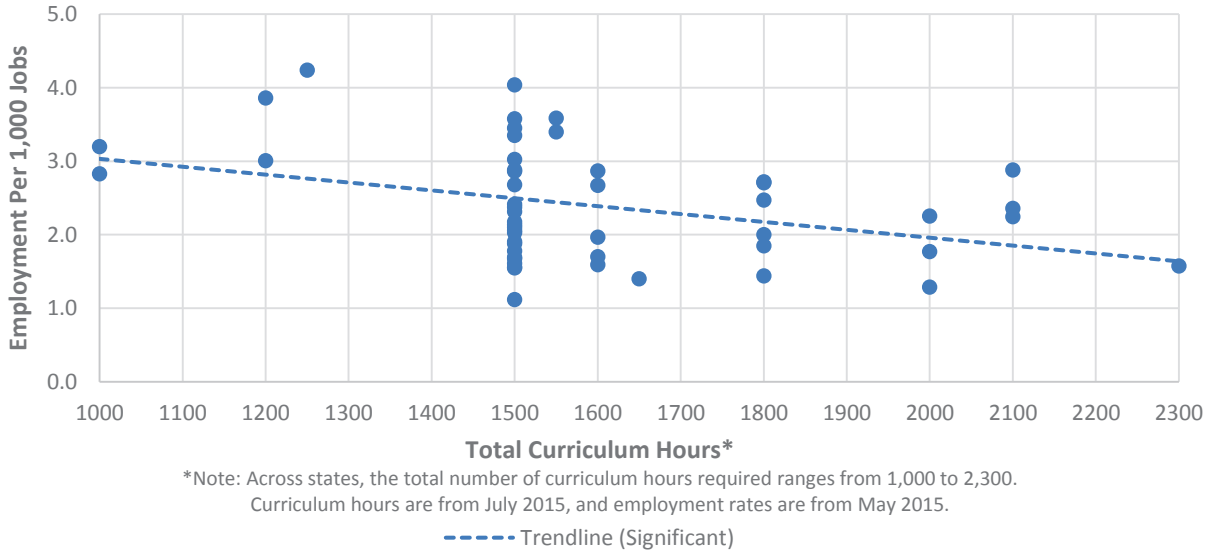
Exhibit 21. Summary of Employment Rates

	n*	Minimum	Maximum	Median	*M***	*SD***
Employment in Cosmetology per 1,000 Jobs	51	1.1	4.2	2.3	2.4	0.8

Note: n = sample size; *M* = mean; *SD* = standard deviation.
**Mean was calculated by averaging state-level data, and standard deviation was based on this mean.

The state-level employment rates range from 1.1 to 4.2 per 1,000 jobs, with an average of 2.4 (*SD* = 0.8). To determine whether the total number of curriculum hours across states may be related to employment rates, a correlational analysis was conducted. These results are presented in Exhibit 22.

Exhibit 22. Curriculum Hours and Employment Rates



The graph in Exhibit 22 illustrates a strong negative and significant relationship between the total number of curriculum hours and employment rates (r = -.37, p<.01), which provides evidence that states with a higher number of total curriculum hours tend to have lower employment rates. However, these analyses are correlational in nature and there may be other variables that impact employment rates.

Wages

The analysis of the relationship between curriculum hours and wages could help determine whether increased wages are a benefit of extended education. The BLS (2016) data for "average hourly wage" were used as the wage variable for this analysis, and is calculated using the estimated total hourly wages of an occupation divided by its estimated employment (i.e., the estimated total occupational employment not including self-employment). However, there are two primary limitations to these data: (1) the data reported incorporate reported hourly wage information, which excludes data on tips—a significant source of income for those in the service industry; and (2) wage estimates are for wage and salary workers only, which excludes self-employed persons. Exhibit 23 provides a summary of wages; for the data by state, refer to Appendix A: State-Level Data.

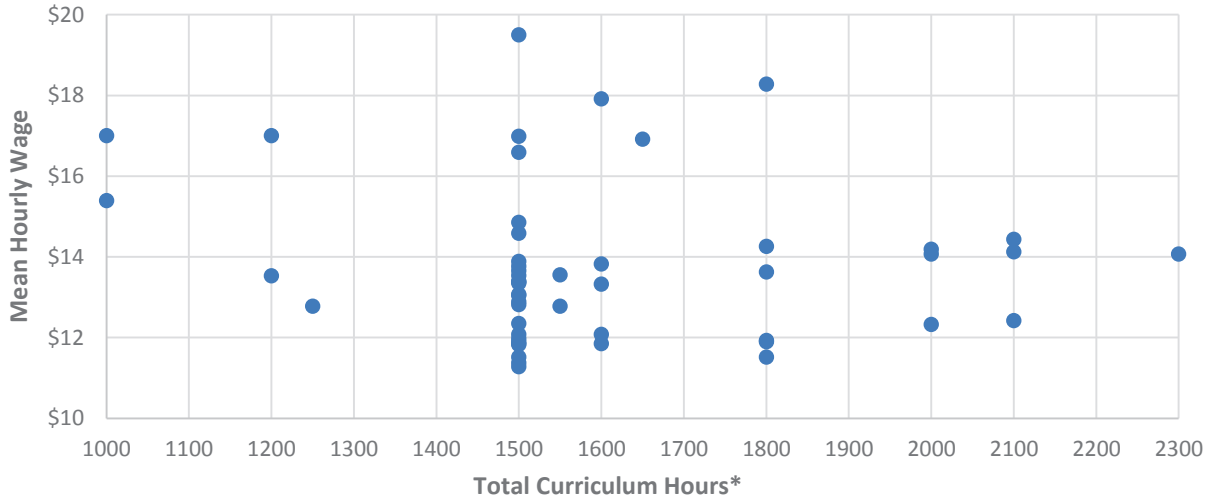
Exhibit 23. Summary of Wages

	n*	Minimum	Maximum	Median	*M***	*SD***
Mean Hourly Wage ($)	51	11.3	19.5	13.4	13.7	2.0

Note: n = sample size; *M* = mean; *SD* = standard deviation.
**Mean was calculated by averaging state-level data, and the standard deviation was based on this mean.

The state-level mean hourly wage amounts range from $11.3 to $19.5, with an average of $13.7 (*SD* = $2.0). To determine whether the total number of curriculum hours across states may be associated with mean hourly wage, a correlational analysis was conducted. These results are presented in Exhibit 24.

Exhibit 24. Curriculum Hours and Wages



*Note: Across states, the total number of curriculum hours required ranges from 1,000 to 2,300. Curriculum hours are from July 2015, and wages are from May 2015.

The graph in Exhibit 24 shows the variability in mean hourly wage across the range of total curriculum hours. Statistically, there is no evidence of a relationship[19] between total curriculum hours and wages.

Conclusions

This preliminary review revealed correlational relationships between curriculum hours and employment outcomes.[20] However, there are extensive limitations in the available employment data for the cosmetology profession, and it is recommended that this analysis be further examined with more complete and systematically-collected data. The key findings of the current research are as follows:

Employment Rates

- The state-level employment rates range from 1.1 to 4.2 per 1,000 jobs, with an average of 2.4 (*SD* = 0.8).
    - o There is a strong negative and significant relationship between the total number of curriculum hours and employment rates.

[19] The correlation was not significant relative to the standard alpha level (*p*) of .05.
[20] These relationships are correlational in nature, and causation cannot be implied.

Wages

- The state-level mean hourly wage amounts range from $11.3 to $19.5, with an average of $13.7.
    - Although there is variability in mean hourly wage across states, there is no evidence of a relationship between total curriculum hours and wages.

APPENDIX A: STATE-LEVEL DATA

This appendix provides state-level data that were analyzed and reported on throughout this report.

Licensing Requirements

A full list of licensing requirements for each state was compiled and is provided in Exhibit 25, sorted in ascending order by hours.

Exhibit 25. State-Level Data: Licensing Requirements

State	Total Curric. Hours	Apprenticeship Model		Age	Secondary Education	Physical Exam	Licensing Renewal	
		In Addition to	As a Replacement				Frequency	CE Credits
Massachusetts	1,000	None	No Option	17	10th Grade	--	2 years[21]	None
New York	1,000	None	No Option	--	--	--	4 years	None
Florida	1,200	None	No Option	16	--	--	2 years	16
New Jersey	1,200	None	No Option	17	10th Grade	--	2 years	None
Pennsylvania	1,250	None	2000	16	10th Grade	--	2 years	None
Alabama	1,500	None	3000	18	--	--	2 years	None
Arkansas	1,500	None	No Option	16	10th Grade	--	2 years	None
Connecticut	1,500	None	No Option	--	8th Grade	--	2 years	10
Delaware	1,500	None	3000	--	10th Grade	--	2 years	None
District of Columbia	1,500	None	1500	--	--	--	2 years	6
Georgia	1,500	None	3000	17	High School Diploma/GED	--	2 years	5
Illinois	1,500	None	Partial[22]	16	--	--	2 years	14
Indiana	1,500	None	No Option	18	10th Grade	--	4 years	None
Kansas	1,500	None	No Option	17	High School Diploma/GED	--	2 years	None
Louisiana	1,500	None	No Option	16	10th Grade	--	1 year	None
Maine	1,500	2 years	2500	17	10th Grade	--	1 year	None
Maryland	1,500	None	24 Months	17	9th Grade	--	2 years	16
Michigan	1,500	None	2 years	17	9th Grade	--	2 years[21]	None
Mississippi	1,500	None	No Option	17	High School Diploma/GED	--	2 years	8
Missouri	1,500	None	3000	17	High School Diploma/GED	--	2 years	None
New Hampshire	1,500	None	3000	18	High School Diploma/GED	--	2 years	None
North Carolina	1,500	None	No Option	--	--	--	3 years	24
Ohio	1,500	None	--	18	--	--	2 years	8
Oklahoma	1,500	None	3000	16	8th Grade	--	1 year	None

Note: Dashes (--) indicate missing data. GED = General Educational Development

(continued on next page)

[21] Except new licensees must renew 1 year after licensing, then every 2 years.

[22] An apprenticeship may be substituted for 150 hours of the 1500 curriculum hours if under the direct supervision of a licensed cosmetologist in a registered salon. Candidates may participate in this apprenticeship program only after completing 750 hours of school training with a minimum average grade of 80.

Exhibit 25. State-Level Data: Licensing Requirements (Continued)

State	Total Curric. Hours	Apprenticeship Model		Age	Secondary Education	Physical Exam	Licensing Renewal	
		In Addition to	As a Replacement				Frequency	CE Credits
Rhode Island	1,500	None	No Option[23]	17	High School Diploma/GED	--	2 years	None
South Carolina	1,500	None	No Option	16	10th Grade	--	2 years	12
Tennessee	1,500	None	No Option	17	10th Grade	--	2 years	None
Texas	1,500	None	No Option	17	High School Diploma/GED	--	2 years	4
Vermont	1,500	None	No Option	18	High School Diploma/GED	--	2 years	None
Virginia	1,500	None	3000	None	High School Diploma/GED	--	2 years	None
Minnesota	1,550	None	No Option	16	High School Diploma/GED	--	3 years	4
Wisconsin	1,550	None	4000	18	High School Diploma/GED	--	2 years	4
Arizona	1,600	None	No Option	--	--	--	2 years	None
California	1,600	None	3200	17	10th Grade	--	2 years	None
New Mexico	1,600	None	No Option	17	10th Grade	--	1 year	None
Utah	1,600	None	2500	None	--	--	2 years	None
Washington	1,600	None	2000	17	High School Diploma/GED	--	2 years	None
Alaska	1,650	None	2000	--	--	--	2 years	None
Colorado	1,800	None	No Option	--	--	--	1 year	None
Hawaii	1,800	None	3600	16	High School Diploma/GED	--	2 years	None
Kentucky	1,800	480 hours (6 months)	No Option	16	10th Grade	--	1 year	None
Nevada	1,800	None	No Option[24]	18	10th Grade	--	2 years	4
North Dakota	1,800	None	No Option	--	High School Diploma/GED	--	1 year	None
West Virginia	1,800	None	No Option	18	High School Diploma/GED	TB test	1 year	4
Idaho	2,000	None	4000	16.5	10th Grade	--	1 year	None
Montana	2,000	None	Only with pre-approval	18	High School Diploma/GED	--	2 years[25]	30
Wyoming	2,000	None	Only with pre-approval	16	10th Grade	--	2 years	None
Iowa	2,100	None	No Option	--	High School Diploma/GED	--	2 years	8
Nebraska	2,100	None	No Option	17	High School Diploma/GED	--	2 years	8
South Dakota	2,100	None	No Option[26]	17	High School Diploma/GED	--	1 year	None
Oregon	2,300	None	No Option	None	--	--	2 years	None

Note: Dashes (--) indicate missing data. GED = General Educational Development

[23] Revoked option in 2015.
[24] Exceptions can be made for those who live more than 60 miles from closest school.
[25] 15 CE each 1 year.
[26] Few exceptions are made.

Impact of Curriculum Hours on Education Outcomes

To conduct the analyses in the section of this report entitled Education Outcomes, data were collected from accrediting agencies, state boards, or test providers upon request. State-level data for these variables are presented in Exhibit 26 through Exhibit 33, and details regarding what is included in these data are presented throughout the report.

Exhibit 26. State-Level Data: School Program Length

State	Total Curriculum Hours	School Program Length (2015-16)	
		n*	Estimated No. of Months to Complete
Massachusetts	1,000	18	9.9
New York	1,000	31	9.1
Ohio	1,500	37	14.7
Tennessee	1,500	21	12.5
Texas	1,500	68	12.6
Colorado	1,800	12	15.2
Kentucky	1,800	11	15.5
Nevada	1,800	6	14.3
Idaho	2,000	15	15.1
Iowa	2,100	18	15.6
Nebraska	2,100	5	15.0

Note: Data were only obtained for schools within 11 states that were of particular interest during this research. Data are sorted in ascending order by hours.
*This sample size (n) indicates the number of schools represented in the data for each state.

Exhibit 27. State-Level Data: Graduation Rates (NACCAS-Accredited Schools Only)

State	Total Curriculum Hours	Graduation Rates (2013-2014)		
		No. of Actual Graduates	No. of Scheduled Graduates	Rate (%)
Wyoming	2,000	62	72	86.1
New York	1,000	5,158	6,815	75.7
Montana	2,000	310	410	75.6
Nebraska	2,100	440	588	74.8
Washington	1,600	1,857	2,484	74.8
Massachusetts	1,000	1,845	2,474	74.6
California	1,600	15,142	20,494	73.9
Alabama	1,500	403	551	73.1
Idaho	2,000	940	1,297	72.5
Georgia	1,500	1,325	1,829	72.4
Hawaii	1,800	78	108	72.2
Rhode Island	1,500	430	596	72.1
Colorado	1,800	1,670	2,334	71.6
Florida	1,200	5,933	8,300	71.5
Arkansas	1,500	901	1,266	71.2
Kansas	1,500	913	1,283	71.2
New Jersey	1,200	2,533	3,570	71.0
Louisiana	1,500	1,299	1,835	70.8
Utah	1,600	1,769	2,518	70.3
Illinois	1,500	4,150	5,920	70.1
South Dakota	2,100	110	157	70.1
Minnesota	1,550	1,348	1,935	69.7
Michigan	1,500	2,808	4,041	69.5
Missouri	1,500	1,848	2,675	69.1
New Hampshire	1,500	435	630	69.0
Iowa	2,100	840	1,221	68.8
North Dakota	1,800	284	413	68.8
Oklahoma	1,500	781	1,151	67.9
Pennsylvania	1,250	3,257	4,796	67.9
Maine	1,500	527	777	67.8
New Mexico	1,600	455	672	67.7
District of Columbia	1,500	237	351	67.5
Ohio	1,500	3,210	4,772	67.3
Tennessee	1,500	1,944	2,894	67.2
Vermont	1,500	79	118	66.9
Connecticut	1,500	972	1,459	66.6
Virginia	1,500	1,318	1,979	66.6
Nevada	1,800	1,146	1,741	65.8
Texas	1,500	5,990	9,120	65.7
Oregon	2,300	1,141	1,742	65.5
Arizona	1,600	1,676	2,563	65.4
Wisconsin	1,550	1,295	1,981	65.4
Mississippi	1,500	529	816	64.8
Indiana	1,500	1,721	2,673	64.4
South Carolina	1,500	955	1,487	64.2
West Virginia	1,800	207	328	63.1
North Carolina	1,500	1,711	2,801	61.1
Maryland	1,500	1,276	2,093	61.0
Kentucky	1,800	926	1,634	56.7
Delaware	1,500	240	436	55.0
Alaska	1,650	--	--	--

Note: Dashes (--) indicate missing data. NACCAS = National Accrediting Commission of Career Arts and Sciences. Data are sorted in descending order by graduation rate.

Exhibit 28. State-Level Data: Licensing Exam Performance

State	Total Curric. Hours	Overall Exam Pass Rate (NACCAS-Accredited Schools Only; 2014)			NIC Written and Practical Exam Pass Rate (NIC Exam Only; 2015)					
					NIC Written Exam			NIC Practical Exam		
		No. of Passing Examinees for All Sections	No. of Examinees for All Sections	Rate (%)	No. of Passing Examinees	No. of Examinees	Rate (%)	No. of Passing Examinees	No. of Examinees	Rate (%)
South Dakota	2,100	106	106	100.0	71	77	92.2	76	79	96.2
Vermont	1,500	68	68	100.0	29	32	90.6	36	41	87.8
Wyoming	2,000	58	58	100.0	50	50	100.0	56	56	100.0
Iowa	2,100	747	748	99.9	348	382	91.1	--	--	--
Alabama	1,500	224	225	99.6	612	699	87.6	629	646	97.4
North Dakota	1,800	242	243	99.6	95	105	90.5	--	--	--
Maine	1,500	369	372	99.2	130	136	95.6	132	132	100.0
Minnesota	1,550	1,138	1,150	99.0	--	--	--	--	--	--
District of Columbia	1,500	88	89	98.9	79	119	66.4	--	--	--
New Mexico	1,600	257	260	98.8	220	242	90.9	235	240	97.9
Nebraska	2,100	368	373	98.7	209	235	88.9	--	--	--
Idaho	2,000	851	863	98.6	336	364	92.3	365	371	98.4
New Hampshire	1,500	361	366	98.6	169	187	90.4	170	171	99.4
Rhode Island	1,500	348	353	98.6	180	247	72.9	--	--	--
Delaware	1,500	133	135	98.5	151	187	80.8	178	181	98.3
Massachusetts	1,000	1,414	1,435	98.5	--	--	--	--	--	--
South Carolina	1,500	769	784	98.1	1199	1382	86.8	1201	1209	99.3
Nevada	1,800	784	800	98.0	371	461	80.5	414	417	99.3
Utah	1,600	1,481	1,512	97.9	686	734	93.5	774	838	92.4
Arkansas	1,500	673	688	97.8	451	487	92.6	501	558	89.8
West Virginia	1,800	174	178	97.8	151	167	90.4	198	202	98.0
Texas	1,500	4,063	4,163	97.6	--	--	--	--	--	--
Colorado	1,800	1,219	1,253	97.3	--	--	--	--	--	--
New York	1,000	2,427	2,494	97.3	--	--	--	--	--	--
Oregon	2,300	955	982	97.3	--	--	--	--	--	--
Hawaii	1,800	33	34	97.1	--	--	--	--	--	--
Montana	2,000	287	296	97.0	128	131	97.7	121	122	99.2
Washington	1,600	1,540	1,588	97.0	--	--	--	837	953	87.8
Indiana	1,500	1,461	1,508	96.9	--	--	--	--	--	--
Georgia	1,500	672	694	96.8	1195	1472	81.2	1274	1395	91.3
Missouri	1,500	1,396	1,442	96.8	768	838	91.7	801	839	95.5
Virginia	1,500	831	859	96.7	--	--	--	--	--	--
New Jersey	1,200	1,118	1,163	96.1	--	--	--	--	--	--
Arizona	1,600	1,195	1,247	95.8	786	907	86.7	795	851	93.4
Tennessee	1,500	1,167	1,222	95.5	--	--	--	--	--	--
North Carolina	1,500	1,127	1,182	95.3	1189	1301	91.4	1188	1328	89.5
Oklahoma	1,500	628	662	94.9	736	894	82.3	--	--	--
Wisconsin	1,550	855	903	94.7	--	--	--	--	--	--
Michigan	1,500	2,091	2,223	94.1	--	--	--	--	--	--
Ohio	1,500	2,582	2,749	93.9	--	--	--	--	--	--
Pennsylvania	1,250	1,957	2,098	93.3	--	--	--	--	--	--
Kansas	1,500	615	660	93.2	--	--	--	--	--	--
Louisiana	1,500	877	944	92.9	750	994	75.5	--	--	--
Illinois	1,500	3,016	3,265	92.4	--	--	--	--	--	--
Mississippi	1,500	330	362	91.2	194	218	89.0	166	203	81.8
Florida	1,200	3,653	4,051	90.2	--	--	--	--	--	--
Connecticut	1,500	653	727	89.8	--	--	--	--	--	--
Kentucky	1,800	660	748	88.2	--	--	--	--	--	--
Maryland	1,500	750	851	88.1	--	--	--	--	--	--
California	1,600	9,964	11,620	85.7	5426	6601	82.2	--	--	--
Alaska	1,650	--	--	--	40	50	80.0	--	--	--

Note: Dashes (--) indicate missing data. NACCAS = National Accrediting Commission of Career Arts and Sciences; NIC = National-Interstate Council of State Boards of Cosmetology. Data are sorted in descending order by overall exam pass rate.

Exhibit 29. State-Level Data: School Program Expenses (for Full Program)

State	Total Curriculum Hours	School Program Expenses (2015-16)			
		n*	Tuition ($)	n*	Books/Supplies ($)
Massachusetts	1,000	18	12,263.1	18	1,347.7
New York	1,000	31	12,603.5	30	1,481.2
Ohio	1,500	37	15,705.8	33	1,778.2
Tennessee	1,500	21	13,969.0	21	1,421.9
Texas	1,500	68	14,093.8	65	1,646.3
Colorado	1,800	12	16,168.8	11	2,235.3
Kentucky	1,800	11	14,164.5	8	1,111.6
Nevada	1,800	6	19,235.2	6	1,673.8
Idaho	2,000	16	14,511.9	16	2,110.8
Iowa	2,100	18	17,624.9	17	2,269.3
Nebraska	2,100	5	18,311.0	5	2,200.0

Note: Data were only obtained for schools within 11 states that were of particular interest during this research. Data are sorted in ascending order by hours.
*This sample size (n) indicates the number of schools represented in the data for each state.

Exhibit 30. State-Level Data: Student Loan Debt

State	Total Curriculum Hours	Student Loan Debt (Unknown Year)	
		n*	Median Title IV Funding ($)
Massachusetts	1,000	15	6,984.4
New York	1,000	26	7,268.8
Ohio	1,500	14	8,342.4
Tennessee	1,500	14	8,269.0
Texas	1,500	30	8,633.4
Colorado	1,800	9	11,685.4
Kentucky	1,800	7	11,774.0
Nevada	1,800	5	12,392.8
Idaho	2,000	14	11,837.1
Iowa	2,100	16	13,370.9
Nebraska	2,100	3	14,666.7

Note: Data were only obtained for schools within 11 states that were of particular interest during this research. Data are sorted in ascending order by hours.
*This sample size (n) indicates the number of schools represented in the data for each state.

Exhibit 31. State-Level Data: Pell Grants

State	Total Curriculum Hours	Pell Grants (2015-16)			
		n*	Pell Grant for One Year ($)	State Multiplier**	Pell Grant for Full Program ($)
Massachusetts	1,000	18	4,241.6	1.1	4,712.8
New York	1,000	30	4,419.4	1.1	4,910.5
Ohio	1,500	36	4,501.6	1.7	7,274.7
Tennessee	1,500	18	4,305.3	1.7	7,175.5
Texas	1,500	61	4,112.4	1.7	6,582.9
Colorado	1,800	12	4,368.3	2.0	8,736.7
Kentucky	1,800	11	4,674.9	2.0	9,349.8
Nevada	1,800	5	4,642.6	2.0	9,285.2
Idaho	2,000	16	4,499.9	2.2	9,999.7
Iowa	2,100	18	4,567.7	2.3	10,658.0
Nebraska	2,100	5	4,473.4	2.3	10,437.9

Note: Data were only obtained for schools within 11 states that were of particular interest during this research. Data are sorted in ascending order by hours.
*This sample size (n) indicates the number of schools represented in the data for each state.
**This data set included the average Pell Grant for cosmetology programs in a single year (operationalized as 900 hours). To extrapolate the Pell Grant amount for the full curriculum hour requirement, a multiplier was applied to the school-level data (e.g., programs with 1,800 hours were given a multiplier of two).

Exhibit 32. State-Level Data: Cohort Default (Title IV Cosmetology Programs Only)

State	Total Curriculum Hours	Cohort Default (2012)			
		n*	No. of Borrowers in Default	No. of Borrowers in Repayment	Rate (%)
Massachusetts	1,000	16	287	1971	14.6
New York	1,000	20	653	5256	12.4
Florida	1,200	49	4993	27715	18.0
New Jersey	1,200	10	111	1143	9.7
Pennsylvania	1,250	23	621	4824	12.9
Alabama	1,500	7	3159	19376	16.3
Arkansas	1,500	14	907	5058	17.9
Connecticut	1,500	7	87	914	9.5
Delaware	1,500	2	17	152	11.2
District of Columbia	1,500	1	24	103	23.3
Georgia	1,500	17	708	3589	19.7
Illinois	1,500	33	881	6835	12.9
Indiana	1,500	15	115	1142	10.1
Kansas	1,500	10	799	5884	13.6
Louisiana	1,500	16	297	2376	12.5
Maine	1,500	2	50	452	11.1
Maryland	1,500	16	883	4837	18.3
Michigan	1,500	18	1489	8839	16.8
Mississippi	1,500	14	2825	12857	22.0
Missouri	1,500	23	1183	6598	17.9
New Hampshire	1,500	2	21	139	15.1
North Carolina	1,500	24	1798	7709	23.3
Ohio	1,500	27	305	2629	11.6
Oklahoma	1,500	17	309	2471	12.5
Rhode Island	1,500	2	16	181	8.8
South Carolina	1,500	12	2553	13329	19.2
Tennessee	1,500	20	1062	5717	18.6
Texas	1,500	53	5891	31552	18.7
Vermont	1,500	0	--	--	--
Virginia	1,500	9	97	773	12.5
Minnesota	1,550	14	2397	14469	16.6
Wisconsin	1,550	8	123	952	12.9
Arizona	1,600	8	443	2605	17.0
California	1,600	60	2106	12444	16.9
New Mexico	1,600	6	824	6127	13.4
Utah	1,600	7	71	498	14.3
Washington	1,600	16	448	3056	14.7
Alaska	1,650	0	--	--	--
Colorado	1,800	11	388	2470	15.7
Hawaii	1,800	0	--	--	--
Kentucky	1,800	7	882	3063	28.8
Nevada	1,800	4	69	447	15.4
North Dakota	1,800	5	54	422	12.8
West Virginia	1,800	5	52	341	15.2
Idaho	2,000	11	518	4571	11.3
Montana	2,000	3	24	228	10.5
Wyoming	2,000	1	13	126	10.3
Iowa	2,100	16	425	2781	15.3
Nebraska	2,100	6	153	1229	12.4
South Dakota	2,100	2	65	764	8.5
Oregon	2,300	16	172	1472	11.7

Note: Dashes (--) indicate missing data. Data are sorted in ascending order by hours.
*This sample size (n) indicates the number of schools represented in the data for each state.

Exhibit 33. State-Level Data: School Financial Stability (NACCAS-Accredited Schools Only)

State	Total Curric. Hours	School Financial Stability (2013-2014)			
		No. of Compliant School Owners	No. of School Owners	Compliance Rate (%)	Mean Composite Score
Massachusetts	1,000	8	8	100.0	2.0
New York	1,000	24	25	96.0	2.2
Ohio	1,500	26	27	96.3	2.1
Tennessee	1,500	19	20	95.0	2.1
Texas	1,500	49	52	94.2	2.1
Colorado	1,800	12	13	92.3	2.1
Kentucky	1,800	7	8	87.5	1.8
Nevada	1,800	5	5	100.0	2.6
Idaho	2,000	15	15	100.0	2.3
Iowa	2,100	12	13	92.3	2.1
Nebraska	2,100	4	4	100.0	2.2

Note: Due to the confidential nature of these data, data were only obtained for these 11 states, which were of particular interest during this research. Data are sorted in ascending order by hours.

Impact of Curriculum Hours on Employment Outcomes

To conduct the analyses in the section of this report entitled Employment Outcomes, data were collected from the Bureau of Labor Statistics (BLS; 2016). State-level data for these variables are presented in Exhibit 34, sorted in ascending order by hours.

Exhibit 34. State-Level Data: Employment Rates and Wages

State	Total Curriculum Hours	Employment in Cosmetology Per 1,000 Jobs (May 2015)	Mean Hourly Wage ($; May 2015)
Massachusetts	1,000	3.2	17.0
New York	1,000	2.8	15.4
Florida	1,200	3.0	13.5
New Jersey	1,200	3.9	17.0
Pennsylvania	1,250	4.2	12.8
Alabama	1,500	1.8	12.0
Arkansas	1,500	1.6	11.9
Connecticut	1,500	3.6	14.6
Delaware	1,500	4.0	16.6
District of Columbia	1,500	1.6	19.5
Georgia	1,500	2.1	13.1
Illinois	1,500	2.9	13.4
Indiana	1,500	2.2	11.9
Kansas	1,500	2.4	12.4
Louisiana	1,500	1.5	11.5
Maine	1,500	2.1	12.8
Maryland	1,500	3.5	14.9
Michigan	1,500	2.7	13.4
Mississippi	1,500	1.1	11.4
Missouri	1,500	2.4	13.1
New Hampshire	1,500	3.0	13.8
North Carolina	1,500	1.7	13.5
Ohio	1,500	3.4	12.1
Oklahoma	1,500	1.7	11.3
Rhode Island	1,500	2.3	13.4
South Carolina	1,500	1.9	11.8
Tennessee	1,500	2.0	13.7
Texas	1,500	1.9	12.9
Vermont	1,500	2.1	13.9
Virginia	1,500	2.9	17.0
Minnesota	1,550	3.4	13.6
Wisconsin	1,550	3.6	12.8
Arizona	1,600	2.9	12.1
California	1,600	1.7	13.8
New Mexico	1,600	1.6	13.3
Utah	1,600	2.0	11.9
Washington	1,600	2.7	17.9
Alaska	1,650	1.4	16.9
Colorado	1,800	2.7	13.6
Hawaii	1,800	1.4	18.3
Kentucky	1,800	1.9	11.9
Nevada	1,800	2.5	11.5
North Dakota	1,800	2.7	14.3
West Virginia	1,800	2.0	11.9
Idaho	2,000	2.3	12.3
Montana	2,000	1.3	14.1
Wyoming	2,000	1.8	14.2
Iowa	2,100	2.4	12.4
Nebraska	2,100	2.9	14.4
South Dakota	2,100	2.2	14.1
Oregon	2,300	1.6	14.1

Note: Dashes (--) indicate missing data. Data are sorted in ascending order by hours.

Relationships between Education and Employment Outcome Variables

The relationship between total curriculum hours and education and employment outcomes were of primary interest for this research, and these are discussed throughout the full and abridged report. Although we focused the report on how curriculum hours relate to each outcome, it is also important to explore how all variables relate to one another.

Exhibit 35 provides the correlation coefficients between the education and employment variables that were included in this research and only the highlighted correlations are statistically significant[27] and meaningful to consider; non-significant correlations are likely to be due to chance (e.g., random sampling error), and should not be interpreted for the purposes of this research. Important to note, however, is that a *correlation is only an indication of the strength and direction of the relationship between two variables, and does not infer that one variable causes another.*

Exhibit 35. Correlation Table for Education and Employment Outcomes

		Total Curric. Hours	Prog. Length	Grad. Rates	Exam Perf.	Student Financial Stability					School Fin'l Stability		Employ -ment
						Tuition	Books/ Supplies	Med. Title IV Funding	Pell Grants (One Year)	Cohort Default	Compli. Rate	Composite Score	
Program Length		.92**											
Graduation Rates		.06	-.45										
Exam Performance		.25	-.20	.25									
Student Financial Stability	Tuition	.76**	.69*	-.09	.26								
	Books/ Supplies	.66*	.53	.45	.63*	.62*							
	Median Title IV Funding	.94**	.81**	-.12	.13	.81**	.63*						
	Pell Grants (One Year)	.53	.58	-.35	-.34	.53	.10	.60*					
	Cohort Default	-.14	.19	-.38**	-.32*	-.18	-.58	.05	.15				
School Financial Stability	Compliance Rate	-.12	-.29	.66*	.64*	.15	.22	-.05	-.16	-.76**			
	Mean Composite Score	.10	-.06	.23	.51	.48	.21	.16	.16	-.46	.64*		
Employment		-.37**	-.26	-.14	-.12	.04	.20	-.22	-.04	-.32*	.49	.04	
Wages		-.12	-.77**	.17	.15	-.53	-.19	-.47	-.56	-.10	.33	-.22	.18

Note: This table is symmetrical along the diagonal, such that the correlations presented would be repeated for the remaining cells of the table. For simplicity, we present each correlation only once.

[27] The correlation was significant if the alpha (p) was less than the standard of .05. Significance level is indicated by one (p<.05) or two (p<.01) asterisks.

CONTACT INFORMATION

For more information, contact:

Myra Y. Irizarry Reddy
Government Affairs Director | Professional Beauty Association (PBA)
15825 North 71st Street #100 | Scottsdale, AZ 85254
p 800.468.2274 x3451 (480.455.3451) | f 480.905.0708 | myra@probeauty.org

EXHIBIT 3

BROOKINGS

RESEARCH

Quick college credentials: Student outcomes and accountability policy for short-term programs

Stephanie Riegg Cellini and Kathryn J. Blanchard

July 22, 2021

Introduction

A small, though important, set of postsecondary programs have largely escaped the notice of policymakers and researchers: short-term vocational programs lasting between 300-599 clockhours. These short programs are not currently eligible for Pell Grants, but can access federal student loans under the Higher Education Act. We draw on information obtained through a Freedom of Information Act (FOIA) request from the Department of Education to generate counts of programs, basic statistics, and some measures of student outcomes for these short-term postsecondary programs participating in student loan programs. Our data include all short-term programs (lasting 300-599 clockhours over a minimum of 10 weeks) that applied to participate in federal student-loan programs between 2010 and 2019 under Section 481(b)(2) of the Higher Education Act of 1965 (20 U.S.C. 1088(b)(2)).

These programs are understudied in the literature and are not separately identifiable in most public government datasets. In this report, we document the size and scope of these programs, discuss current policies designed to ensure program quality, and explore the implications of alternative accountability policies that regulators might consider.

We find that, as of 2019, there are about 103 programs under 600 clockhours for which students can take out federal student loans, down from 730 such programs in 2010. Seventy percent of the programs participating are offered by for-profit institutions and nearly half are cosmetology programs. Despite reporting high completion and job-placement rates, we find that post-college earnings for students graduating from these programs are quite low—averaging about $24,000 per year, or $12 per hour for a full-time worker.

Current policies offer little in the way of accountability for these short-term programs. The main requirement for participation in loan programs is known as the 70-70 rule, requiring that programs have self-reported completion and job-placement rates of 70% each when they first apply. No standard definition or guidance for job-placement calculations exist, so institutions interpret the rule themselves and report their own figures. As we show below, all approved short-term loan programs report very high self-reported completion and job-placement rates—many well above 70%. We further show that job-placement rates are not correlated with post-completion student earnings.

> "Despite reporting high completion and job-placement rates, we find that post-college earnings for students graduating from [short-term] programs are quite low—averaging about $24,000 per year."

Due to the manipulability of job-placement rates in particular, the 70-70 rule may be inadequate to protect students and taxpayers from low-performing programs. In 2014, the Obama administration enacted the Gainful Employment (GE) rule that would have held these programs—and many others—accountable for debt-to-earnings rates of graduates. The rule was rescinded by the Trump administration before it was implemented, but data on earnings and debt were released. We examine these data and the implications of the GE rule had it been applied to these short-term programs. We find that, despite the very low earnings, short-term programs fare well on debt-to-earnings measures under the Gainful Employment rule due to low borrowing. On average, students in these programs borrow just $750. Only 5% of these short-term programs are in the GE warning "zone" and none of them fail debt-to-earnings thresholds.

Finally, we examine how these programs would fare on other potential accountability metrics—some of which have been proposed previously. In particular, we consider using the average earnings of young adults with no college education as a benchmark for post-completion earnings. When we apply our lowest benchmark of $25,000 (roughly the average for high school dropouts and about 200% of poverty in 2019), more than half of these short-term programs fail. Nearly all failing programs (96%) are in for-profit institutions—many of them in cosmetology and massage.

> "It is not clear that [short-term programs] warrant taxpayer support and student debt."

Our results have implications for regulatory policy surrounding access to loans for these very short vocational programs, and they can inform current proposals to expand access to Pell Grants for similar short-term programs. Although the short-term programs we study have relatively low debt and require only a short time investment, their earnings outcomes are concerning. It is not clear that they warrant taxpayer support and student debt. If these programs continue to participate in federal student-loan programs, we suggest that, at a minimum, policymakers consider adding a high school benchmark on top of GE metrics for any short-term program accessing federal student aid. We further suggest that access to short-term Pell Grants—if implemented—should be limited to public sector programs.

What We Know About Short-Term Programs Accessing Loans

Short-term programs under 600 clockhours are not eligible to participate in the Pell Grant program, but may access federal student loans if they submit an application and gain approval from the Department of Education. A key requirement for approval is the so-called 70-70 rule, requiring that programs have self-reported completion and job-placement rates of 70% each. No standard definition or guidance for job-placement calculations exist, so institutions must track their own graduates and interpret the rule themselves, subject to being verified by an auditor of their choice.

Under the Obama administration, GE regulations were proposed to hold these programs and others—including all for-profit programs and non-degree programs in

public and nonprofit institutions—accountable for student outcomes. Programs would lose access to federal student aid if they could not meet certain debt-to-earnings rates. Specifically, programs would fail with annual debt-to-earnings greater than 12% and discretionary debt-to-earnings greater than 30%. They would be in a warning "zone" in a range of 8-12% annual debt-to-earnings or 20-30% discretionary debt-to-earnings. The rule was rescinded by the Trump administration in 2019—before it was fully implemented.

To codify and strengthen accountability for these programs, efforts to reauthorize the Higher Education Act included reinstating GE as well as new proposals based on high school earnings benchmarks. For example, the College Affordability Act (H.R. 4674) put forward by House Democrats in 2019 proposed allowing Pell Grants to be used for short-term programs (lasting 8-15 weeks) in public and nonprofit institutions. It also redefined the rules determining eligibility for short-term programs in all sectors that currently access federal student loans.

In addition to meeting debt-to-earnings thresholds under the GE standards, the College Affordability Act proposed that programs between 300-599 clock hours would need to meet a high school earnings benchmark. Specifically, the proposal required programs to show that the higher of the mean or median earnings of graduates were higher than the national average or (if justified) a state or local average for students with just a high school diploma. Similarly, Pell Grant eligibility for short-term public and nonprofit programs in the College Affordability Act would need to meet "anticipated earnings" benchmarks agreed to by industry or sector partnerships, with the requirement that anticipated earnings be higher than local or national averages for individuals with only a high school diploma.

We examine all three levels of accountability here: the current 70-70 rule, GE regulations, and potential high school benchmarks that could be used to supplement the other metrics.

> "Students attending short-term programs tend to be disadvantaged and may be vulnerable to predatory practices, based on limited prior research."

Students attending short-term programs tend to be disadvantaged and may be vulnerable to predatory practices, based on the limited prior research on these programs. Ositelu, McCann, and Laitinen ↗ (2021) report on the many gaps in our understanding of short-term programs. They urge caution as policymakers consider expansions of short-term programs that could leave students of color, in particular, with high debt and little gain. Focusing on past policies surrounding short-term credentials, Whistle ↗ (2021) finds that the non-targeted and non-outcomes-based financing of these programs results in worse outcomes for low-income students and students of color. Ositelu ↗ (2021) draws on the Adult Training and Education Survey to study short-term programs lasting 15 weeks or less; she finds that half of working adults with a short-term credential were making poverty-level wages in 2016.

Analyzing Outcomes for Short-Term Programs Accessing Loans

Through a FOIA request, we obtained the Education Department's data on short-term programs accessing loans. The agency collects self-reported completion-rate and placement-rate data for these short-term programs when they apply for the first time or seek re-certification for access to loan programs.[1] This data also include basic information on the number of eligible programs, institutions, field of study, program length, and accreditation.

We have information on all programs between 300-599 clock hours lasting at least 10 weeks that applied to participate in federal student-loan programs or were recertified between 2010 and 2019. These programs are offered in 452 institutions and provide about 880 different programs over this period. We drop 27 programs in foreign institutions. Self-reported completion and placement rates under the 70-70 rule are provided for about 476 programs.

We supplement these data with data from the 2017 release of the GE program-level data to assess post-college earnings and how these programs would fare on GE debt-to-earnings metrics. The GE data contain debt-to-earnings rates, debt, and three-year mean and median earnings measures of graduates for programs that were operating between 2010 and 2012. Our FOIA data contain more than 700 short-term programs operating during this time frame, but only 73 report data under GE. The reasons for

the mismatch are unclear, but could be due to the small size of many of these programs, as GE does not report outcomes for programs with less than 30 graduates over three years.

Finally, to explore additional proposed accountability metrics, we consider three earnings benchmarks that we classify simply as "low," "medium," and "high." Our most conservative low estimate is just $25,000. This baseline was previously used by the Department of Education in the first release of the College Scorecard in 2013-14 to calculate the percentage of students in each postsecondary institution that make more than a high school graduate. In explaining the use of this benchmark, the College Scorecard ↗ notes, "The $25,000 threshold was chosen since it approximately corresponds to the median wage of workers age 25 to 34 with a high-school degree only." The $25,000 figure is simple, straightforward, and serves as a lower-bound relative to other earnings benchmarks. Updating this statistic with 2019 earnings data, 25-34 year-olds with only a high school diploma only earned an average of $34,867, and, coincidentally, those in the same age range *who did not even complete high school* had median earnings ↗ of $25,536 in 2019. Accordingly, we refer to the low benchmark as approximating high school dropouts' earnings through the remainder of the report. Moreover, $25,000 roughly corresponds to 200% of the federal poverty line ↗ in 2019 for a single person living alone at $24,980. We propose $25,000 as a simple lower bound for this analysis and for policy, but our results would be similar using these alternate benchmarks.

To gain a more relevant representation of current earnings for young students who have completed a high school education, our medium estimate is based on average earnings of $32,787 annually. This reflects the Census Bureau's ↗ calculation of mean earnings of workers who graduated high school in the 18-24 age group who "usually worked 35 hours or more per week for 50 weeks or more during the preceding calendar year" in 2019. Finally, our high estimate is based on all year-round, full-time ↗ workers over the age of 18 with a high school diploma. Note that this estimate intentionally includes workers over the age of 25 and does not include those who are unemployed, making it an upper bound at $47,833 per year.

How Many Short-Term Programs Access Student Loans?

We begin with simple counts of programs lasting between 300-599 clockhours that applied to participate in federal student-loan programs. Figure 1 plots the total number of 300-599 clockhour programs participating in student loan programs each year by sector, regardless of approval date. Most evident is the steep decline in the total number of programs participating over time. In 2010, 730 programs participated. As of our latest complete year of data in 2019, there were just 103 programs participating. The number of public sector programs has plummeted most dramatically, dropping from 425 to 25.

(https://www.brookings.edu/wp-content/uploads/2021/07/F1-Short-term-programs-participating-in-federal-student-loans.png)

More research is needed to understand the reasons behind the decline in Figure 1, but information on approvals and disapprovals is informative. Figure 2 reports patterns of overall applications, approvals, and disapprovals each year. The number of total applications and new approvals peaked in 2013 with about 48 new programs allowed to participate in federal loan programs that year. Less than half of new applicants are typically approved in any given year. Disapprovals were highest in 2011 and 2016 at

around 95 programs. The total number of applications has declined over the last four years, while the number of approvals has held steady, around 15 or so new programs added each year.

(https://www.brookings.edu/wp-content/uploads/2021/07/F2-New-short-term-program-approvals-and-disapprovals-by-year.png)

The Department of Education data also provide some insight into the reasons for disapproval. The largest category of disapprovals is for programs that "are not long enough" and presumably do not meet the minimum 300 clockhours or 10-week length. In most years, the second-most popular reason for disapproval is not meeting the 70-70 requirement. Interestingly, in 2015, one program was denied for the stated reason of "not leading to gainful employment," but the definition of this term was not clear and the GE rule was never officially implemented. It is not entirely clear as to why exceedingly short programs or those that do not meet the 70-70 requirements would apply.

What Types of Short-Term Programs are Accessing Loans?

Table 1 reports some descriptive statistics for the 103 short-term programs that are currently participating in federal student-loan programs (as of 2019). Seventy percent of these programs are in for-profit colleges. Less than a quarter of programs are in public institutions, and just 4% are in nonprofits. Cosmetology programs account for nearly half (46%) of all approved short-term programs, but since these are very short programs, they likely reflect programs in sub-fields such as nail technicians and aestheticians, rather than licensed cosmetologists. Welding, truck driving, phlebotomy (drawing blood), and culinary programs round out the top five fields, but each represents less than 8% of the total. Programs are fairly evenly distributed geographically, with Pennsylvania, Florida, and Texas topping the list.

Table 1: Short-Term Programs Participating in Loan Programs, 2019

	Number
Total Number of Programs	103
Sectors	
For-profit	74
Public	25
Nonprofit	4
Top 5 Programs	
Cosmetology	47
Welding	8
Commercial Vehicle Operation	8
Phlebotomy	6
Cooking & Related Culinary Arts	3
Top 6 States	
Pennsylvania	16
Florida	15
Texas	11
New York	8
Ohio	7
New Jersey	7

Source: *Authors tabulations of Education Department data on short-term loan programs.*

Table 1: Short-Term Programs Participating in Loan Programs, 2019

Notes: *Top 5 programs lists the fields with the most programs participating in loan programs in 2019. Programs are grouped by the following 4-digit CIP codes: Cosmetology-1204, Welding-4805, Commercial Vehicle Operation-4902, Phlebotomy-5110, Cooking & Related Culinary Arts-1205. Top 6 states lists the states with the most short-term programs participating in loan programs in 2019. A total of 59 schools had at least one program approved for loans in 2019.*

Fields of study differ substantially across sectors. As shown in Figure 3, cosmetology programs take place entirely in for-profit institutions, while welding and culinary-arts programs are disproportionately offered by public institutions, although the numbers of programs are quite small. Nonetheless, these differences by field inform patterns by sector and suggest important differences in student demographics.

(https://www.brookings.edu/wp-content/uploads/2021/07/F3-Distribution-of-fields-by-sector.png)

Table 2 reports some additional metrics included in the Department of Education data. Notably, average clockhours are quite low, just 367, while the average number of weeks is 17. Most institutions have just one short-term program that accesses federal loans; the mean is 1.7 and the max is three. Many programs have been approved for several years—one as long as 33 years—but the average is about 9 years.

Table 2: Descriptive Statistics for Short-Term Programs, 2019

	Mean	*Min.*	*Max.*
Number of Programs Offered per Institution	1.2	1	3
Number of Years Program Approved	9	0	33
Clockhours	368	96	563
Number of Weeks	17	10	47
Self-Reported Completion Rate	93	70	100
Self-Reported Job Placement Rate	87	70	100
Total Programs		103	

Table 2: Descriptive Statistics for Short-Term Programs, 2019

Source: *Authors tabulations of Education Department data on short-term loan programs.*

Notes: *A program approved for zero years was approved to participate in loan programs in 2019. Self-reported completion and job-placement rates are averaged over all years a program reported them in Education Department data. One program had clockhours below 300, listing 96 hours and 36 weeks.*

How Do Short-Term Programs Perform on Outcomes-Based Accountability Measures?

The 70-70 rule

The most interesting information included in the Department of Education data are the self-reported outcome measures under the 70-70 rule. For these approved programs, in Table 2 we can see that all 103 meet the 70% threshold for completion and job placement with the minimum listed as 70 for each. However, the average self-reported completion rate is a high 93% and the self-reported job-placement rate is 87%.

The Gainful Employment rule

We next merge the data with the GE data released in 2017 to measure student earnings and assess how these institutions would fare if the GE rule had been implemented. As noted previously, only 73 short-term programs were successfully matched to the GE data. These are likely to be larger programs and potentially more-established programs than those that were unmatched—that is, they would be positively selected—so we consider our earnings analyses for these merged groups to be optimistic upper bounds of what we might expect if the full set of short-term programs were included. We also recommend that—if GE is reinstated—policymakers consider lowering the threshold number of students needed for inclusion for GE to be effective in holding these types of programs accountable for student outcomes.

Nonetheless, in Table 3 we report how our 73 matched programs fared on GE metrics. The average of the "highest of mean or median earnings" suggests that graduates of these programs have earnings of about $23,800 per year. The mean of the mean is only slightly lower at $23,500. Median annual loan payments are low, averaging $750 with a maximum of $2,782. These low debt measures keep debt-to-earnings annual rates quite low, with annual rates averaging 3.5% and topping out at 9.6% (for comparison, the threshold for failure is 12%). In contrast, discretionary debt-to-earnings rates are quite high, averaging 52% (the failure threshold based on discretionary earnings is 30%). We observe official GE program status—based on failing both the discretionary *and* annual metrics—in the lower panel: 95% of short-term programs pass and just 5% are in the warning "zone," with none failing.

Table 3: Gainful Employment Outcomes for Short-Term Programs

	Mean	*Min.*	*Max.*
Highest of Mean or Median Earnings	$23,830	$8,646	$80,672
Mean Earnings	$23,533	$8,646	$80,672
Median Earnings	$21,768	$3,846	$74,718
Annual Debt Payments	$750	$0	$2,782
Debt to Earnings Annual Rate	3.5%	0.0%	9.6%
Debt to Earnings Discretionary Income Rate	52.5%	0.0%	170.1%
Official GE Program Status			
Percent Passing		94.5%	
Percent in Warning "Zone"		5.5%	
Percent Failing		0	
Total Programs matched with GE Data		73	

Source: *Education Department data on short-term loan programs merged with GE data.*

Notes: *Earnings and debt are in 2019$ (USD).*

One question arising in policy debates is the reliability of job-placement rates for accountability. Since there is no standard definition, institutions can interpret job placement loosely and, in the case of short-term programs, they self-report them. To better understand the relationship between more reliable earnings measures (based on Social Security Administration data) and job placement, we plot the two values for

the set of matched short-term programs in Figure 4. It is obvious from a glance that there is no correlation between the two measures. The calculated correlation coefficient is only -0.0596, with the opposite sign of what we would expect if both were indicative of quality. Thus, it is clear that job placement is a poor proxy for earnings outcomes among these programs. Moreover, Figure 4 shows that most short-term programs have very low earnings, with one obvious outlier around $80,000.

(https://www.brookings.edu/wp-content/uploads/2021/07/F4-Reported-job-placement-vs.-earnings.png)

A high school earnings benchmark

To assess a proposed third layer of accountability, we examine various high school earnings metrics. In contrast to debt-to-earnings, the application of a high school earnings metric to assess student outcomes for these programs yields disappointing—but perhaps not surprising—results; these are presented in the first column of Table 4.

Based on the lowest high school earnings benchmark ($25,000), 70% of the merged short-term programs fail this metric. That is, less than a third (30%) of the short-term programs yield higher earnings than a 25-34 year-old high school dropout. The medium metric of $32,787 based on high school graduates would yield failures of 84% of our sample. Using the highest metric of $47,833, only two programs of the 73 would pass, yielding a 97% failure rate.

Table 4: Comparing Earnings Metrics to Gainful Employment Status for Short-Term Programs

	Total failing benchmark (percent of total)	*Official GE Status*	
		Pass	*Warning "Zone"*
Low Earnings Benchmark ($25,000)	51 (69.9%)	47	4
Percent of GE Category Failing on Earnings	–	68.1%	100%
Med. Earnings Benchmark ($32,787)	61 (83.6%)	57	4
Percent of GE Category Failing on Earnings	–	82.6%	100%
High Earnings Benchmark ($47,833)	71 (97.3%)	67	4
Percent of GE Category Failing on Earnings	–	97.1%	100%
Total short-term programs	73 (100%)	69	4

Source: *Education Department data on short-term programs merged with GE data.*

Notes: *Counts of programs that failed each high school earnings metric compared to the counts of programs in Pass or Warning "Zone" GE status. Percent of GE Category Failing calculates the percentage of programs that pass GE (or in the Warning "Zone") that fail each high school earnings benchmark. GE earnings data are adjusted from 2016$ to 2019$ (USD).*

The two right-most columns of Table 4 break out the programs that fail each earnings benchmark into passing/failing the debt-to-earning metrics under the GE rule to compare these different accountability approaches. Of the 51 programs that fail the lowest high school metric, 47 pass GE and 4 are in the warning "zone." Looking at it a different way in the second row, of those that pass GE, 68% would still fail our lowest high school earnings metric. If there is an expectation that postsecondary programs receiving federal student aid should result in earnings greater than high school, even

the lowest high school earnings metric—added to GE—could provide an additional measure of accountability.

Figure 5 presents failure rates by sector. Forty-nine for-profit programs (80%) fail the lowest high school metric, compared to just two public programs (17%). Calculated across all failing programs on our lowest earnings benchmark, 96% come from the for-profit sector. The difference in failure rate between sectors narrows with the medium and high earnings benchmarks, though for-profits fail at higher rates across all levels.

(https://www.brookings.edu/wp-content/uploads/2021/07/F5-Sectoral-failure-rates-across-earnings-benchmarks.png)

As noted above, fields of study are not evenly distributed across sectors. Figure 6 counts passing and failing programs (using the lowest earnings benchmark) by field of study. Cosmetology is the largest field of study in the data, and with all cosmetology programs reporting less than $25,000, they make up nearly two-thirds of all failing programs. Massage therapy is next, with all but one program failing to meet the low

earnings benchmarks, accounting for 17% of all failing programs. Among the four health administration programs in our data, three fail. All other fields with failures have just one program in the data, so we view these are merely suggestive. Fields with more than one program in which all programs pass the lowest high school benchmark include criminal justice, truck driving, medical technicians, and welding.

(https://www.brookings.edu/wp-content/uploads/2021/07/F6-Short-term-program-performance-on-low-earnings-benchmark-by-field.png)

More research is needed to better understand these patterns, but it is possible that gender differences across fields could be contributing to these differential outcomes as passing fields appear more heavily male and failing fields are more heavily female. Disparities may also be related to employment trends and the way earnings are reported in different fields. For example, the main cosmetology trade association, the American Association of Cosmetology Schools, has been successful in its legal efforts to gain exceptions to earnings-based accountability rules due to the prevalence of underreported tipped income in the field. Whether or not underreporting drives performance on these metrics is the subject of ongoing research.

Implications for Policy

In the last decade, about 880 short-term programs under 600 clockhours applied to participate in federal student-loan programs, and about 500 of these programs were approved in this period. Including approvals from earlier years, in 2010, about 730 short-term programs participated in federal student-loan programs, but this figure has declined over time. In 2019, the most recent year of our data, 103 programs participated. Seventy percent of these programs take place in for-profit institutions and 47% are cosmetology programs.

To gain eligibility, programs must meet the 70-70 criteria regarding completion and job-placement rates. Among approved programs, completion and job-placement averages are high, but can be misleading. In particular, job placement is not clearly defined in statute, allowing nearly any job to count as in-field. For example, a student who attended a cosmetology program may be considered placed "in-field" if they are working as a cashier at a salon.

> "[J]ob placement is not clearly defined in statute, allowing nearly any job to count as in-field. For example, a student who attended a cosmetology program may be considered placed 'in-field' if they are working as a cashier at a salon."

Earnings are more reliable metrics to assess quality in postsecondary programs. Not surprisingly, we find that earnings of graduates are not correlated with reported job-placement rates. The average earnings for these programs is about $24,000, or about $12 per hour for a full-time worker. Average debt is roughly $750.

In 2014, the Obama administration enacted the GE rule to add an additional layer of accountability for a number of different programs, including the short-term programs we investigate here. The rule was rescinded before it was fully implemented, but notably, very few of these short-term programs appear in the GE data, suggesting that they fell below the reporting thresholds based on low number of graduates. Of the 73 programs we observe in the GE data, 95% pass the GE debt-to-earnings thresholds.

If these programs are to continue to access student loans, we support the creation of an additional earnings benchmark to be used in conjunction with GE for these short-term programs to ensure student protection. Such a measure could be based on a comparison of a program's earnings to a benchmark based on the average earnings of young people who graduate high school but do not attend college. Our data show that 70% of the short-term programs we study would fail even the lowest justifiable benchmark of just $25,000 per year based on the average earnings of high school dropouts. Virtually all (96%) of these failing programs are in for-profit institutions, at least in part due to the prevalence of (failing) cosmetology and massage programs in the sector. Programs in male-dominated fields, such as welding and truck driving, appear to perform better against these benchmarks. Higher benchmarks—such as our medium benchmark of $32,787 based on high school graduates' earnings—might be more easily justified for policy, as postsecondary institutions should, at least in theory, enroll high school graduates and generate more earnings for students than high school alone. Any such earnings thresholds could easily be adjusted to account for differences in wage levels in states or local areas and could flexibly adjust to changing labor market conditions. Research in progress examines these types of alternate thresholds for a broader set of programs.

"Policymakers should consider changes to the 70-70 rule that strengthen accountability and avoid relying on an easily manipulated job-placement measure."

More research is needed to adjust for student selection in assessing outcomes and to explore the role of tipped income in earnings measures, but our descriptive analyses suggest that concerns about the value of these short-term programs for students is justified. Policymakers should consider changes to the 70-70 rule that strengthen accountability and avoid relying on an easily manipulated job-placement measure. Policymakers should also ensure that all short-term programs are subject to GE regulations, perhaps lowering the number of graduates for which exemptions apply.

In addition to GE, we support imposing a high school earnings benchmark or similar threshold earnings measure for short-term programs accessing student loans, as well as for any expansion of the Pell Grant program to short-term programs. In light of these results and other research on sectoral differences in student outcomes ↗ in short-term programs, we further suggest that any access to short-term Pell Grants be limited to public sector programs.

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AUTHORS

Stephanie Riegg Cellini **Nonresident Senior Fellow** - Governance Studies, Brown Center on Education Policy

Kathryn J. Blanchard **Ph.D. Student** - The George Washington University
@katiejblanchard

Footnotes

1. We requested information that the Department of Education collects when programs apply for the first time or are recertified using this form: https://eligcert.ed.gov/ows-doc/eapp.pdf. The short-term programs we consider are defined on p. 22 (Section E.26.i). Institutional recertification is based on program participation agreements that can last up to six years, but timing can vary and changes in ownership or governance also require recertification (Department of Education 2021).